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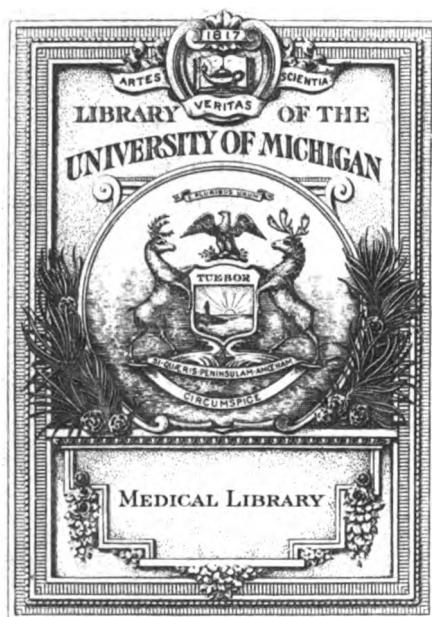
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ON THE DIARRHŒA OF INFANTS.

By G. R. GRASSETT, M. D., Toronto.

(Proceedings of the Toronto Medico-Chirurgical Society.)

It is unnecessary that I should offer any definition of the term "*Diarrhœa*," a disease which I suppose to be coeval with the history of our first parents; nor do I propose to dwell at any length on its numerous varieties, which are distinctly described in all the standard authorities in medicine of the present day. The feculent, the bilious, the mucous, the serous, the chylous, and other species of *Diarrhœa*, are respectively attributed to different agencies, and each of them seems to demand a different mode of treatment. I shall confine myself, on the present occasion, to that *general* form arising principally from the irritation produced by dentition, and into which one or other of the varieties I have just mentioned is found most commonly to enter. For the sake of perspicuity I shall notice it:—

1st. In its history, general and pathological.

2nd. In the treatment which, so far as my observation has extended, it is desirable to pursue.

The amount of deaths, from this and from other diseases, occurring at the period of dentition, is greater than I feel warranted in stating in precise terms. Dr. Arbuthnot estimated it to be one in every ten, and other authors one in every six. Whether these computations have been founded on correct data or otherwise, I do not venture to say, but admitting that they have exceeded the reality, we cannot close our eyes to the truth, which stands out in bold relief, that the mortality, at this critical period, is exceedingly great.

I am disposed to consider this malady as being possessed of a two-fold nature, although in giving expression to this opinion I may be exposed, perhaps, in some degree, to the charge of admitting a paradox. But if I should say it is *Idiopathic*, it would involve a conclusion manifestly erroneous,—if it is pronounced *Symptomatic*, it would not comprehend all the circumstances converging to its production. I deem it, therefore, to be constituted of *both*, and believe it to arise *idiopathically* from the action of a hot sun on the hepatic system, and *symptomatically* from the irritation of dentition. I am supported in this opinion by the fact, that *infants under the age of six months are much less subject to Diarrhœa*,

notwithstanding the influence adverted to, and that when it *does* occur, it assumes, in most instances, a form which is very readily under the control of treatment. Again, in the absence of this influence, the act of teething, considered simply in itself, is not so frequently productive of the disease under consideration, a proof of which is exhibited in the *cessation of the symptoms on the approach of cold weather, although the process of dentition continues to go forward with undiminished activity*. These circumstances have led me to the obvious and irresistible conclusion, that a primary cause, as well as one arising from sympathy, *generally* concurs to establish (at least in our Canadian climate) the obstinate *Diarrhœa* with which this feeble class of patients have so often to contend.

It must have been observed that, under ordinary circumstances, it makes its approach with insidious steps: the dejections are rather more frequent than they ought to be, but as they present a natural appearance, it excites but little attention, and it is permitted, perhaps, to continue for some days, and gradually to increase before medical aid is solicited. Even now that aid would not be sought were it not for the more prominent co-existing circumstances of irritability of the stomach, and constant retfulness of temper. The absence of pain on pressure, of pyrexia, and of morbid redness of the tongue, give satisfactory evidence, that in this stage of the disease it cannot be regarded as of a truly inflammatory character. There is merely a degree of irritability in the mucous membrane, occasioned by an increased secretion of bile, evidenced by the bright green evacuations. But this irritability, from the continued operation of the same causes, in process of time, produces alteration in the pathological condition of the lining membrane, and some degree of inflammatory action ensues.

It is very difficult, in the *early* stages of *Diarrhœa*, to ascertain the precise nature of the morbid appearances. I must own that I have never had the opportunity of being present at such an examination, and I believe that the opportunities must be rare. Dr. Crampton observes, that "the membrane, in recent cases, has been observed more or less red and congested, or extremely pale and anæmic; the redness being disposed in patches or in continuous stripes, leaving the intervening portions very

pale." With due deference to so high an authority, I may affirm, that in almost numberless instances, I have witnessed these very appearances in the alimentary tube, when it was deemed, by more competent judges than myself, to be perfectly healthy. I am willing, however, to allow, that an acrid secretion of bile, *continuing* to flow over a tender membrane, exhibiting the disposition to put on inflammatory action, may lead to more well-marked changes in its normal structure; and when these take place, the evacuations alter their character, being serous with slimy or ropy matter, occasionally containing coagulable lymph, tinged with blood, and generally speaking of a highly fœtid description.

The mesenteric glands now become, in many instances, inflamed, enlarged, and indurated, from the absorption of the acrid alimentary matter, very analogous to that which occurs in inguinal bubo. Fever takes place, with thirst, restlessness, and interrupted sleep. Rapid emaciation follows, and the scene is frequently closed with repeated convulsive attacks.

We may probably agree in thinking, that in the middle and latter stages, the term Diarrhœa is no longer applicable to this disease, for all the different features of dysentery are essentially assumed, and the appearances observed on dissection are precisely those presented in cases of dysentery. If it be inquired what these appearances are, a more satisfactory reply can be given than that which refers to an earlier period of the disease; although it must be admitted that they differ in most cases, sometimes being limited to the intestines themselves, and at others, involving, *with these*, the omentum, the mesentery, and its glandular appendages. I believe I am correct in stating that the chief traces of disease are to be found in the intestines themselves, which are sometimes agglutinated together—at other times contracted in their calibre, and not unfrequently intussusceptions are met with. The mucous coat is much thickened, inflamed, and even ulcerated; the ulcers varying in shape and size, and occupying sometimes the large and sometimes the small intestines. It is also occasionally œdematous, and flakes of coagulable lymph are found adherent here and there to inflamed or congested portions of its surface. Whatever may be the nature of other concomitant structural changes, it is evident, as I before observed, that the primary and chief seat of the disease is found in one part or other of the mucous membrane of the intestines, and this fact must be deemed satisfactory, in the position it holds, with regard to a definite plan of treatment.

I have but one more circumstance to notice as occurring in connection with this disease, and of which no mention is made by any of those authors with whose

writings I have so far become familiar. I refer to the influence which the very great disproportion of the cerebral mass to the rest of the body in infants must exercise in giving origin to gastro-intestinal affections.

I now come to speak, in the second place, of the treatment which this formidable affection seems to require. If I am correct in my views as to its causes, and its pathological history, the indications to be fulfilled will be sufficiently apparent. I need not point out the separate treatment which a mucous, a bilious, or a chylous tendency in its early stage would clearly indicate, but I would briefly dwell upon that course which, in its established form, it appears advisable to pursue. In those instances, where a change of climate is practicable, such a change cannot but be regarded as promising much that is valuable in this disease. In addition to the irritation of teething, the continued heat of the summer in the western portion of this Province operates in a degree that can scarcely be too highly appreciated, in the production, in the first place, and in the subsequent augmentation of the Diarrhœa of infants. Where, then, there is no combination of obstacles to a removal, the climate of Quebec offers a decided advantage, simply because its temperature is modified by those frequently recurring easterly breezes which are sent up the St. Lawrence as through a huge funnel; and from my observation during a long residence in that city, I can bear, without fear of controversy, this favorable testimony to its character. The climate of Kamouraska, situated farther down, and having a near proximity to the sea coast, would, perhaps, hold out still higher advantages to the infant invalid, although, on this point, I do not speak from personal knowledge. But of this I am quite persuaded, that the cases of recovery would exhibit a much larger proportion, could my professional brethren be induced to urge an exchange of the now favorite locality of Niagara for the more distant points to which I have just adverted.

In many instances the inflammation or morbid action of the mucous membrane extends, or perhaps is transferred to the serous coat, giving rise at one time to ascites, and at another to general anasarca. The plan of treatment which I have found of most service is best shown in the detail of an interesting case of this nature which occurred to me during the past summer.

Mrs. B——'s infant had suffered for many weeks from Diarrhœa. The parents stated that they had lost a child a year or two previously under precisely the same circumstances, and so persuaded were they that all means would now prove unavailing—that they *fully expressed this belief* on confiding the infant to my charge.

Several teeth were forcing their way through the

gums—the evacuations were very numerous in the course of the twenty-four hours—there was ascites, and the lower extremities were œdematous. Daily fever, a frequent cough, emaciation, and loss of sleep, comprised the remaining formidable symptoms. An emetic was first exhibited, the gums repeatedly scarified, and the following directions strictly carried out:—A salt water bath for a few minutes each night, employing during the time continued friction over the abdomen,—repeated frictions, with dry mustard to the legs and feet by means of a piece of new flannel, through the day, with bandages round the whole of the abdomen and inferior extremities, and a powder exhibited every four hours, composed of two grains of the hydrargyrum cum cretâ,  $\frac{1}{4}$ th of a grain of ipecacuan, and the same quantity of the pulv. scillæ. These means were steadily persevered with, and in less than a fortnight I had the gratification of observing a material improvement. The anasarca had entirely disappeared—the diarrhœa much diminished, and the strength proportionably increased; and no lengthened period elapsed before the health of the infant was perfectly re-established.

But it will be said that this system is applicable to a proportion only of the numerous cases which fall under our daily observation during the summer and autumnal seasons. I yield to the force of this observation; but having contested with one class of cases with at least a measure of success, I am sanguine enough to hope that we may, with equal confidence, prepare to meet the advance of another. Where, then, the disease in its wasting form has long maintained a struggle with the enfeebled constitution, and the consequences of a debilitated and relaxed state of the mucous membrane continue, I beg earnestly, yet with much deference, to suggest another plan, which, although adopted in Europe within the last few years, has not, I have reason to believe, experienced a fair trial in this country. A notice in a foreign journal first suggested the idea to me; and in a case which I attended, in conjunction with our distinguished President, sufficient effect was produced to encourage a repetition in instances of a similar nature. I refer to that remedy so invaluable in its application to a catalogue of other affections, the crystallized nitrate of silver. I do not stay to speak of its strongly astringent properties, nor is it necessary that I should expend words in discussing its eminently tonic powers; but I would, in most emphatic terms, urge my confreres to afford it admission on their list of remedial agents in the diarrhœa of infants, and with candour to test its value for themselves. Its employment, both by the mouth and through the instrumentality of the lavement apparatus, is equally beneficial and safe, and its usefulness can scarcely be questioned, whether the

disease exists as yet in the simple form of irritation, in established inflammation, or in actual ulceration of the villous lining of the alimentary canal. Presented thus as a topical application to a congested or inflamed surface, it must obliterate more or less the injected vessels, as it would obliterate those which are observed on any external surface; and, combined with opiates, it cannot fail to prove highly serviceable in altering the character of the ulcerated tissue, and disposing it, (if anything will dispose it,) to assume a healthy action.

#### CASE OF RE-UNION OF THE HUMERUS AFTER FIVE MONTHS FRACTURE.

By WILLIAM MARSDEN, M.D., Nicolet.

Feb. 20, 1844.—Was called to Hannah Colbert, ætatis 33, wife of Patrick Keif; a strong and muscular woman, who had been injured by the fall of a very large hemlock tree. She had been brought to bed of her seventh child on the 6th of the month, only a fortnight previous to the accident, and was nursing at the time. Found simple comminuted fracture of the humerus, and simple fracture of the femur and three costæ of the left side, with considerable *ecchymosis* of these latter parts. The tree, in its descent, first struck the humerus, the arm being elevated; and finally rested upon the thigh, pinning her to the ground. A portion of the tree about 12 inches in diameter had to be chopped off before she could be removed. I had her immediately removed to a comfortable lodging in the village, and, with the assistance of my students, the fractures carefully set, &c. Mrs. Chandler, the kind hostess of the manor house, ever foremost in the cause of charity, caused the infant, by my directions, to be taken from the mother and placed at nurse. The superior fracture of the humerus was immediately below the insertion of the deltoid muscle, and the inferior one about three inches above the bend of the elbow. The fractures of the thigh and ribs progressed admirably and naturally. The constitutional derangement was comparatively slight—the milk producing no inconvenience. On the 12th of March the woman, in whose charge she was placed, apprized me that my patient was in the habit of untying the bandages and scratching the shoulder. I therefore gave strict orders not to repeat the practice, and represented to her the danger and folly of it; and secured the bandages so as to make a sufficient degree of longitudinal pressure. On the 24th March, examined the humerus, and found the inferior fracture re-united, but in the superior one no attempt at re-union whatever. On raising the arm the upper portion of bone rose up almost at right angles with the lower one. On inquiry I learned (after much quibbling and pre-

varication,) that she had again removed the bandages, "only two or three times, just to see how it was getting on." The fear of displacing the lower fracture prevented my doing more than re-apply the splints and bandages, until Friday the 3rd April, when I rubbed the fractured ends of the bones freely together, making longitudinal pressure, and allowed it to remain in that state until the latter end of April, when, finding re-union had not taken place, I wrote the history of the case to a medical gentleman in Quebec, Dr. James Douglas, of whose surgical skill and knowledge I entertain a high opinion. I subjoin a portion of his letter (although it was not written with a view to publication) as being interesting not only from its bearing upon my case, but in itself also.

Soon after its receipt I had resolved to operate as suggested, and had obtained the consent of the patient and her friends. On the 20th of May Dr. Bruneau, of Montreal, having been called in consultation by the friends of a patient of mine, I availed myself of his visit, to shew him the case. He suggested rubbing the fractured ends of the bones again, applying starched bandages and making longitudinal pressure, as the only means of preventing the removal of the splints. Various circumstances, having no bearing on the case, prevented my doing anything more until Saturday the 15th of June, when I resolved, as a *dernier resort*, to give Dr. B.'s suggestion a fair trial before operating. I accordingly applied pasteboard with starched bandages, having first rubbed the ends of the bone freely together (in fact until the patient complained of pain and soreness) and made *strong* longitudinal pressure. So slight, however, was my hope of success, that I had written to my friends, Dr. Von Iffland, of Yamaska, and Dr. Gilmour, of Three Rivers, a few days after, announcing my intention of operating on the 22nd of July, and asking their assistance at the time, if disengaged. Ten or twelve days elapsed after the last application when she stated, that "the arm was very itchy, and that if she could have removed the bandages *without my knowledge* she surely would have done so, to give it a good scratching." She also said "she was sure the bone was knitting, as she often felt shooting pains in the bones, &c., to all which I gave no heed, except to urge her not to disturb it, as being her only chance of avoiding an operation, which, indeed, I thought inevitable. On Saturday the 20th July, being two days previous to the day on which I proposed to operate, I proceeded to remove the bandages and splint, or pasteboard, and you will more readily imagine, than I express, my surprise, and the poor woman's delight, on finding that *re-union was perfect and complete*, if we except a very slight curvature depending either on the degree of longitudinal pressure applied, which was

considerable; or on the action of the muscles, or both, as she admitted having attempted to raise the arm *some-times*.

## EXTRACT OF LETTER.

Quebec, May 3, 1844.

"It is odd that the humerus is the bone in which, when broken, non-union is most frequently observed. I think the want of union does not depend alone on constitutional causes; if it did, union would not have taken place in the ribs or thigh of your patient. I had a case last year of fractured ribs and humerus in a strong and powerful man of good habits and middle age (35). The ribs united in due course of time, but there was no attempt at union of the humerus. Pressure was made longitudinally, and the ends of the bones were forced together, but without avail. I tried to produce the necessary action by rubbing the fractured ends together, but equally without avail. Five or six months after the receipt of the injury, I cut down to, and removed the ends of the bones, which succeeded perfectly. The arm is now as strong as ever, and the individual earns a livelihood as a labourer. In Mrs. —'s case, pressure, and rubbing, and setons inserted between the fractured ends, were used, but without success, and I believe they are generally unsuccessful. From the appearance of the ends of the bone in last year's case, I am satisfied that nothing but the removal would have done good. The operation offers the best chance, and is the least painful; when cut down to, the ends of the bone may be removed by a strong pair of bone forceps."

Signed, "J. DOUGLAS."

My own opinion now coincides with that of Dr. Douglas—that non-union did not depend on constitutional causes in my case; nor did it depend on parturition. Non-union is sometimes attributed to the continued use of cold applications, &c., but I am convinced that in my case it depended solely on the stubborn and repeated displacement of the ends of the bone by the patient herself.

## EXTRA UTERINE PREGNANCY.

## REMOVAL OF THE CHILD BY THE CÆSAREAN OPERATION.

By M. M'CULLOCH, M. D., Lecturer on Midwifery, M'Gill College, Montreal.

Madame Reaume, aged 21, a native of St. Eustache, in this District, had, on a former occasion, a living child at the full term, and when she first consulted me, in May, 1828, was again pregnant, and had passed about fifteen months from the last catamenial period and about ten months from the time of quickening, without having experienced any symptom of parturition, although the abdominal enlargement and other symptoms left no doubt of the existence of pregnancy. During the first nine months of that period, she frequently experienced severe pains in the right iliac region; but after the completion of the usual term of utero-gestation the motion of the child was no longer felt, and she thought her sufferings, in consequence, became much less severe. About the same time the milk began to flow from her breasts, and a lochial discharge appeared, and continued several days. Notwithstanding this remarkable change the abdomen did

not decrease, and the fluctuation only of an immense quantity of fluid could be detected.

She remained nearly in the same condition until the following month of November, when I endeavoured, by tapping the abdomen, to alleviate her sufferings, and about thirty-six pints of liquid, of the color and consistence of pale ink, were drawn off. The child could now, for the first time, be distinctly felt, under the integuments, and the position of its body and limbs easily traced. She experienced no inconvenience or bad consequences from the operation, although she had very imprudently ventured to walk a few hundred yards to the village Church on the following day. Diuretics, and occasionally a purgative, were for some time administered, and I had the satisfaction to find that she afterwards remained free from the slightest symptom of dropsy. She, nevertheless, continued to suffer daily from fever and debility until the month of June following, when putrid matter, mixed with quantities of hair from the child's head, began to ooze from her navel. The skin was inflamed a few inches round an opening that would admit the point of the finger, and nature was, in this way, evidently making a most interesting effort to expel the child, and save the life of the mother; but she had become so feeble and emaciated as scarcely to leave a chance of her surviving a few days, and I thought I was, under the circumstances, warranted in proposing the Cæsarean operation as her only hope. At the same time, her alarm was much increased by observing two worms escaping from the navel, and she, without hesitation, agreed to submit to whatever I thought would afford her a chance of recovery. Being then six miles distant from the nearest professional friend, I did not, under the circumstances, consider myself warranted in waiting for assistance, I therefore had her at once placed on a table, and made an incision in the linea alba extending five or six inches downwards from the navel, and in the third year of her pregnancy, removed a putrid child of the ordinary size at birth. She did not lose an ounce of blood, and bore the operation with great courage. No vestige of a placenta remained, and the child was found in a sac that had formed adhesions all round to the walls of the abdomen, and appeared to be the fallopian tube enormously distended and thickened. It contained, besides the child, a quantity of very offensive matter. Nearly all the bones of the toes and fingers were found detached, and some of them adhering to the sides of the cavity were carefully removed; a small tent was then placed at the bottom of the incision to favor the escape of matter, and its edges were kept in contact with adhesive plaster, supported with a bandage. She afterwards continued to improve daily, although the ther-

moneter, at the time of the operation and for several days after, was upwards of 90° in the shade. Her progress, notwithstanding, from a state of extreme prostration to perfect health was so rapid, that she was able, without inconvenience, to be taken six miles to Church a month after the operation.

She has since enjoyed excellent health, and, without regret, remains childless.

Montreal, October 1, 1845.

#### EXPERIMENTS ON A FEW OF THE MINERAL WATERS OF CANADA.

By A. HALL, M.D., Lecturer on Chemistry, M'Gill College.

##### MINERAL SPRING AT VARENNES.

On the southern shore of the St. Lawrence, about 15 miles from this city, easily reached by a steamer which plies regularly between the two places, the above village lies most picturesquely situated. About a mile to the north of the village, and about 600 or 800 yards from the shore, which is here barren and stony, and exhibits numerous boulders, the springs bubble forth, of which two have been recognised; one of them, not yet examined, is said to be highly charged with light carburetted hydrogen gas. The water which I obtained comes from the Saline Spring, and was sent to me for examination in carefully sealed bottles, in the Autumn of 1842, but was not submitted to investigation until the Spring of 1843, in consequence of severe occupation during the winter months, which precluded every thing of the kind. I can hardly doubt but that its gaseous constituents must, to a certain extent, have escaped, but that they had not done so to any great amount, is, I think, sufficiently demonstrated by the fact, that no precipitation of carbonate had taken place in the bottles, which would certainly have occurred, had the carbonic acid, which confers solubility on the carbonate of lime, of which this water contains a great deal, been materially diminished in the quantity held in solution.

##### I. Qualitative Analysis.

1. The specific gravity of the water was found to be 1.0091.
2. No effect was produced on blue litmus paper.
3. Red litmus paper was turned blue, and turmeric paper brown, thus indicating the presence of an alkaline or earthy carbonate.
4. Barytic water produced a copious white precipitate, soluble in nitric acid,—indicative of carbonic acid.
5. By boiling, a precipitate ensued soluble with effervescence in hydro-chloric acid,—indicative of the presence of an earthy carbonate.
6. After boiling and filtration, the addition of oxalate of ammonia induced a further precipitate, giving

a clue to the presence of lime, in combination with a stronger acid than the carbonic.

7. After boiling and filtration, lime water throws down a precipitate, soluble in hydro-chlorate of ammonia; and phosphate of soda, and carbonate of ammonia, with boiling, induces likewise a white precipitate—magnesia.

8. Nitrate of silver throws down a heavy curdy precipitate, indicating chlorine.

9. Starch, sulphuric acid, and chlorine water, added to the cooled liquid after boiling, in the usual manner, was attended, after a short time, with the production of a purple streak at the line of junction of the liquid and supernatant chlorine water, thus affording evidence of the presence of iodine.

10. Cautious evaporation to dryness was attended with a distinct crystallization, the crystals assuming the cubic form, bearing every resemblance to common salt.

11. Carbazotic acid, added to a concentrated solution, was not attended with the formation of any precipitate, thus proving the absence of potassa.

12. To determine whether any magnesia existed in the precipitate obtained by simply boiling the water, the following experiments were adopted:—Eight ounces were boiled, and the precipitate carefully collected on a filter, and washed. It was now dissolved in hydro-chloric acid. To one portion was added oxalate of ammonia, to precipitate the whole of the lime, and it was now re-filtered. To the filtered solution a sufficiency of ammonia was added, to neutralize any free hydro-chloric acid, and caustic potassa was then added, and the whole boiled, but no precipitate appeared. To another portion, phosphate of soda, and carbonate of ammonia were added, after the precipitation of the whole of the lime by oxalate of ammonia. This also was submitted to ebullition, but no precipitate took place,—thus indicating by these two experiments an absence of magnesia, and permitting us to infer that the precipitate obtained by boiling the liquid was simply carbonate of lime.

The inference is thus deduced, that the water holds in solution the following substances:—

Carbonate of Lime,	Chlorine,
Carbonic Acid,	Iodine,
Lime,	Sodium.
Magnesia.	

## II. Quantitative Analysis.

1. An eight ounce phial was obtained, accurately balanced, and into it was poured 1,000 grains of the water. Having been placed in a sand bath, it was allowed cautiously to evaporate to dryness, and the phial was kept exposed to the same temperature as that at which the evaporation was conducted, for at least an

hour, until in fact it was sensibly dry. On being weighed a second time, it was found to have increased in weight by 9.40 grains, which is therefore the weight of dried solid material in 1,000 grains of the water.

2. 1,000 grains were boiled, and the carbonate of lime, which precipitated, was collected on a weighed filter, and dried. It weighed 0.300 grs., and consisted of 0.168 lime, and 0.132 carbonic acid.

3. 1,000 grains were precipitated by barytic water. The precipitate was carbonate of barytes and carbonate of lime; it was collected on a filter, washed, and dried: and was found to weigh 4.15 grs., of which the proportion of the carbonic acid to the lime was 0.132, and to the barytes, 0.859, yielding in toto 0.991 grs. of carbonic acid.

4. After boiling, 4,000 grains were precipitated by oxalate of ammonia. The precipitate collected on a weighed filter, washed and dried, weighed 2.65 grains, furnishing for every 1,000 grains of the water, the proportion of 0.662 grains of oxalate of lime, equivalent to 0.061 calcium.

5. 3,000 grains were freed from lime by oxalate of ammonia, and treated with phosphoric acid and carbonate of ammonia, and boiled. The ammonia-phosphate obtained, weighed, after careful drying and exposure to a gentle heat, 5.14 grs. or 0.685 of magnesium, for the 3,000 grains of water experimented on, or 0.228 magnesium per 1,000 grs., giving 0.371 magnesia.

6. 4,000 grains were precipitated by nitrate of silver. It was chloride and iodide of silver, and weighed conjointly, after a cautious fusion, 88.12 grains. It was now placed in a tube, and after having been heated, a current of chlorine gas was steadily passed over it. On being weighed a second time, it was found to have lost 0.08 grs., equivalent to 0.027 of iodine, per 1,000 grains of the water. The residue yielded a proportion of 5.439 grains of chlorine, to every 1,000 grains of the water.

7. 1,000 grains were freed from lime and magnesia, and cautiously evaporated to dryness; the saline residue weighed 7.79 grains, furnishing us a proportion of 3.091 of sodium.

The above investigation furnishes, as the proportion of the solid and gaseous constituents of 1,000 grains of the water, the following summary:—

	Grains.
Carbonic Acid combined, .....	0.132
Calcium, in combination probably with Chlorine, .....	0.061
Lime, .....	0.168
Chlorine, .....	5.439
Magnesia, .....	0.371
Sodium, .....	3.091
Iodine, .....	0.027
	9.289
Carbonic Acid in gaseous state, .....	0.859

These were probably combined in the following manner:—

		Grains.
CHLORIDE OF SODIUM,	{ Chlorine, ..... 4.699 }	7.790
	{ Sodium, ..... 3.091 }	
CHLORIDE OF MAGNESIUM,	{ Chlorine, ..... 0.635 }	0.863
	{ Magnesium, ... 0.228 }	
CHLORIDE OF CALCIUM,	{ Chlorine, ..... 0.105 }	0.166
	{ Calcium, ..... 0.061 }	
CARBONATE OF LIME,	{ Carbonic Acid, 0.132 }	0.300
	{ Lime, ..... 0.168 }	
IODIDE OF SODIUM, .....		0.031

9.150

Free Carbonic Acid in 1,000 grains of the water 0.180 cubic inch.

The contents in an imperial gallon of 277.274 cubic inches, will be as follows :—

	Grains.
Chloride of Sodium, .....	545.30
Chloride of Magnesium, .....	60.41
Chloride of Calcium, .....	11.62
Carbonate of Lime, .....	21.00
Iodide of Sodium, .....	2.17

640.50

Free Carbonic Acid, 12.60 cubic inches.

The Gas Spring will receive a careful analysis at the hands of Mr. de Rottermund, the chemical assistant to the Provincial Geological Survey, who is at the present moment deeply engaged in researches in this department of science.

#### GEORGIAN SPRING.

Early in the Summer of 1841, I received from Capt. Kains, the proprietor, a quantity of mineral water from a spring to which he had given the above appellation. These Springs are situated in the neighbourhood of Lake George, a lake of unimportant size, though of beautiful scenery, in the township of Plantagenet, on the south side of the Ottawa River, about fifteen miles from L'Orignal, and two miles from Grenville. They are to be met with on the southern margin of the lake, which is connected with the Ottawa by a small stream, called George's River, affording a communication by steamboat. The rock in the immediate neighbourhood of the Springs is said to be composed of freestone; slate, containing pyrites, abounds. Limestone makes its appearance about one mile and a half from the Springs, where it forms a high ridge. Not the slightest trace of iron has been detected in the water by myself or Mr. de Rottermund, who strongly suspected its presence, from the appearances which the spring presented on its confines, owing to the oxidation of the iron tube through which the water is made to flow. A detail of the experiments instituted on this spring water by myself was published in the "Transactions of the Literary and Historical Society of Quebec," in 1842. Iodine and silica were both observed in it, but in very minute quantities. The water required to be evaporated to 1-15th its volume, before satisfactory traces of the former could be determined. Various experiments established its specific gravity to be 1.007.

The contents of an imperial gallon were found to be as follows :—

	Grains.
Chloride of Sodium, .....	504.007
Chloride of Magnesium, .....	129.361
Chloride of Calcium, .....	18.630
Sulphate of Lime, .....	35.700
Bi-carbonate of Lime, .....	15.120
Iodide of Sodium, { traces of }	
Silica, { each. }	

703.018

In several respects this spring water presents some resemblance to the Airthrey Mineral Spring, near Stirling, in Scotland.

(To be Continued.)

*Observations made at the Magnetical and Meteorological Observatory at Toronto, in Canada. Printed by order of Her Majesty's Government, under the superintendence of Lieut.-Colonel Edward Sabine, of the Royal Artillery. Vol. I.—1840, 1841, 1842. London : LONGMAN & Co., 1845.*

This work, comprising a large quarto volume of nearly 500 pages, mostly composed of intricate tables of figures, and accompanied by numerous plates of comparative observations, has, as its title indicates, been recently published by order of Her Majesty's Government, for circulation among the scientific bodies and institutions of the civilized world.

This very valuable and elaborate contribution to the magnetic and meteorological information now possessed by our *savans*, owes its origin to the commendable zeal and energy which the British Government has so repeatedly manifested in the advancement of science in all its branches, and the anxiety it has always displayed in making known to the world, the results of all the investigations which it has undertaken with that view.

A correct knowledge of the elementary facts of terrestrial magnetism, so as to supply a foundation on which the advancement of that science might be correctly based on inductive principles, has long been extensively felt. The geographical determination of the direction and intensity of the magnetic forces at different points of the world, had been regarded with attention, and engaged the especial research of Humboldt and other eminent continental philosophers, when engaged in voyages or travels; and in Britain, since the peace, such pursuits have occupied the attention of officers of both branches of the service. The British Government, through its recent maritime expeditions, and numerous magnetic surveys in various parts of the earth, has also largely increased the means of arriving at some of the necessary conclusions. But these isolated and unconnected observations, however valuable, afford but a part of the determinations required to found a magnetic theory; other means of



a more permanent and comparative character are necessary, before a system founded on general laws can be framed. For the purpose of obtaining the absolute value of the magnetic elements, fixed magnetic Observatories, under the control of attentive observers, become indispensable, and through them the nature of all magnetic disturbances, and the causes of those perturbations of the magnetic elements which occasionally occur, may, by means of simultaneous and systematic observations, both as to time and as to instruments, be possibly discovered. On the continent of Europe, establishments for the accomplishment of these objects have been formed; but in Britain individual zeal alone was engaged in the inquiry, until 1836, when the attention of her philosophers was more specifically drawn to the subject, by a letter from Baron Humboldt to the late Duke of Sussex—an appeal which was met with every respect and consideration.

In 1837, the University of Dublin, at the instance of Dr. Lloyd, established an Observatory for all researches connected with terrestrial magnetism and meteorology; the same year the Government allotted a site for a similar establishment at Greenwich, to be placed under the control of the Astronomer Royal, and shortly afterwards a third was established at Kelso, in Scotland, at the private expense of Sir Thomas M. Brisbane, Bart.

The British Association for the Advancement of Science commenced in 1834 a magnetic survey of the British Islands, which was completed on its own responsibility in the two following years. The result was published in its annual report of 1838, and the work was followed up in other countries at the expense of their respective governments. In 1838, on consideration of a report made of the progress of the researches regarding the geographical distribution of the magnetic forces on the surface of the globe, the British Association called upon the Government to aid the prosecution of the inquiry in more remote parts of the earth, and, in consequence, a naval expedition was equipped in 1839, for a magnetic survey of the higher latitudes of the southern hemisphere. The Association, at the same time, recommended that similar magnetic, and also meteorological researches, should be accomplished by fixed Observatories at certain stations of prominent magnetic interest within the limits of the Colonies,—Canada and Van Dieman's Land, as approximate to the points of the greatest intensity of the magnetic forces in their respective hemispheres—St. Helena, as approximate to the point of least intensity on the globe, and the Cape of Good Hope, as a station where the secular changes of the magnetic elements were peculiarly interesting, were named; and it was suggested that the Observatories should be placed under the superintendence of the Board

of Ordnance, and its military corps. This recommendation, having been strengthened by the support of the Royal Society, was acceded to by the Government; and under the direction of a Committee of the Royal Society, the necessary instruments were prepared, and a code of instructions relating to their use and objects drawn up, published, and subsequently modified. The Antarctic expedition was entrusted with the charge of the Observatory at Van Dieman's Land during its first two years' operations, and the other three were each placed under the management of a lieutenant of artillery, with whom was united three (afterwards four) non-commissioned officers, and two gunners, to all of whom increased allowances were made. The sum of £100 for each Observatory was allotted for incidental expenses, making the total charge for each about £392 per annum.

The officers appointed to the charge of the Observatories were ordered to Dublin, to receive instructions in the manipulation of the instruments in the Observatory there, which were similar to those ordered for the Colonies; and in autumn, 1839, they quitted England for their respective destinations. The officer appointed to Canada was Lieutenant C. J. B. Riddell, who, being obliged to return to England in February, 1841, in consequence of ill-health, was temporarily succeeded by Lieutenant Younghusband, who acted until the arrival of Lieutenant Lefroy in September, 1842. The latter officer proceeded in April, 1843, on a magnetic survey within the Hudson's Bay territories, and was succeeded, *de novo*, by Lieutenant Younghusband, who continued in charge to nearly the end of 1844.

The observations made at the Colonial Observatories having, according to instructions, been forwarded in monthly reports to the Ordnance, were, at the request of the Royal Society, ordered by the Treasury to be reduced and published, under the superintendence of Lieutenant Colonel Sabine, assisted by Lieutenant Riddell, and four military clerks, who were non-commissioned officers of the Royal Artillery.

The results which have already been laid before the public, consequent on these arrangements, have been the publication—Firstly, of the magnetic observations made by the Antarctic expedition on its passage to Kerguelen Island, and during the first and second years of its operations at sea, within the Antarctic circle, and printed at the expense of the Royal Society, in the Philosophical Transactions respectively for 1842, '43, and '44; 2dly, Of observations made in 1840 and '41, at the Observatories, and by the expedition, on days of unusual magnetic disturbance, for comparison with each other, and with similar observations made simultaneously in different parts of the globe, printed by the Government in 1843;

and 3dly, A very useful work by Lieutenant Riddell, containing magnetic instructions for the use of portable magnetic instruments, and for fixed magnetic Observatories, printed by the Government in 1844.

Lieutenant Riddell, on his arrival in Canada, examined different localities which were suggested to him as convenient sites for his Observatory. The preference was finally given to Toronto, where he was offered two-and-a-half acres of ground belonging to King's College, on the sole condition that the buildings erected should be appropriated only for an Observatory, and revert to the College when discontinued. This offer was accepted, and the new buildings occupied in September, 1840. In the mean time a temporary Observatory was formed in a small unoccupied barrack in the city. The new Observatory is situated in lat.  $43^{\circ} 49' 35''$ , and long.  $79^{\circ} 21' 30''$ , on a rising ground, about half a mile north of the city, 300 yards west of the University, and  $107\frac{1}{2}$  feet above the surface of Lake Ontario, or  $341\frac{1}{2}$  feet above the sea. The buildings consist—1st, Of an Observatory, having two apartments, one for the instruments, 50 feet by 20,—the other, an office or computing room, 18 feet by 12, with a vestibule or hall, 12 by 6—the transit theodolite occupying a small circular room, connected by a covered passage with the instrument room, and placed at a sufficient distance from it to obtain a view of the lower culmination of some of the circumpolar stars; 2d, A detached building, with a room 18 feet by 12, partly sunk under ground, with a view to uniform temperature, for experimental determinations and observations of absolute intensity. It is situated about 80 feet from the Observatory, so that the instruments placed in it, may neither affect, nor be affected, by the magnets in the Observatory; 3d, An anemometer house, constructed so as to support the vane and pressure plate of Oster's anemometer, at a height exceeding 30 feet above the roof of the Observatory, and above the neighbouring trees; 4th, A small shed for the inclination circle—and 5th, Barracks for the officers and detachment. The whole of the ground granted by the College is enclosed by a picketing. The buildings 1 to 4 are at the eastern end, within an inner inclosure; the barracks for the officer and party are at the western end. The Observatory is built of 12-inch logs, rough cast on the outside, and plastered on the inside, the laths being attached to battens projecting two inches from the logs, so as to leave a stratum of air between the logs and plaster. The doors and windows are double, and the outer door has the further protection of a closed porch. The small room, or office, is provided with an open fire-place, adapted for a wood fire; the instrument room has neither stove nor fire-place. No iron whatever was used in the structure, the nails being of copper, and the locks and other fastenings of brass.

The instruments are supported by massive stone pillars, each formed of a single stone, about six or seven feet long, imbedded in masonry to the depth of three feet.

The foregoing details we have condensed from Lieut.-Colonel Sabine's introduction to the work, which comprises the observations made in 1840, '41, and '42, by the Lieutenants in charge, whose assiduity, efficiency, and talents, are highly commended by the gallant and scientific editor. Nor is it the less gratifying to find that the good conduct, intelligence, and zeal of the men, and the thoroughly efficient and trustworthy manner in which they performed their duties, are spoken of in terms honorable to the distinguished corps to which they belong.

Lieut.-Colonel Sabine has contributed (with the assistance of Lieutenant Riddell), about 100 pages of preliminary observations, under the head of "Adjustments, Abstracts, and Comments." To give even an outline of the immense mass of tabular information here submitted to the scientific reader, is far beyond our limited space, without serious encroachment upon the other departments of our Journal. We would, if it were within our power, submit a few extracts, or the substance of such comments, where they immediately seem to call for particular attention, but we must keep within the bounds we have prescribed for ourselves.

We notice from the observations made on the subject of magnetic declination, that the following practical inferences are derived for the instruction of persons who may have occasion to employ the compass in surveying, and other similar purposes in Canada:—1st. That large deviations from the mean monthly direction of the needle, at the same hours, are least likely to occur from noon to 4 P.M. 2d. That at all other hours of the day, the liability to the occurrence of deflections exceeding five to six minutes from the mean direction at the same hours, is about three times as great as at the hours of two and four P.M.; at six P.M., the liability, as it may be estimated from the two hourly observations, is about one observation in twenty-eight, and at eight and ten P.M., rather greater. 3d. That the disturbances are usually deflections of the north ends of the needle *to the west* in the forenoon, and *to the east* from six P.M., to midnight, inclusive.

One of the principal objects to be attained from the establishment of the fixed Observatories, was the elucidation of the laws of the irregular fluctuations of the magnetic elements, and the determination of their local or universal character. To effect this, all the magnetometers were to be observed on certain days simultaneously at certain short intervals, and for twenty-four hours together. Twelve days, entitled Term days, were named in each year, one in each month, for this kind of observation; the intervals between the observations being five minutes for the declinometer, and ten for the magnetometers. Other national magnetic Observatories were

invited to co-operate in these simultaneous observations; and this invitation was, among others, quickly responded to by the directors of the Observatories at Boston and Philadelphia. The observations of these latter bodies, as far as they have been made, have been communicated to Lieut.-Colonel Sabine, and the whole have been projected upon a similar scale for comparative reference with those made at Toronto. The remarkable harmony in the curves of the three American Observatories on every one of the Term days, attests the reality of the phenomena, of which each affords an independent representation. The perturbations which took place in Toronto in the magnetic direction, and in the intensity of the magnetic force, are obviously common to a large portion of the North American continent. To effect a comparison of similar simultaneous observations made in Europe, the plates containing the American curves, embody also the results obtained from the observations made on the Term days, at Prague or Breslau, and which embody the magnetic perturbations common throughout the largest portion of the European continent. The correspondence so strikingly manifested in the fluctuations of the declination and horizontal force in America, and which has its counterpart in Europe, is not found to prevail in the same degree between the curves of the two Continents, when exhibited in comparison. Nevertheless, instances are not unfrequent of individual perturbations common to both Continents, having their culminating points at the same observation instant. There are sometimes disturbances in the same direction in both Continents, and sometimes in opposite directions. On the other hand, there are perturbations, and occasionally of considerable magnitude, on the one Continent, of which no trace is visible in the observations of the other.

Having thus premised these general observations on the work before us, we purpose, in our next, to present to our readers some of the tabular results, which have been deduced from the extended observations made and conducted in so creditable a manner to the parties invested with the charge.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON THE DIAGNOSIS OF ANEURISMS OF THE AORTA.

By M. GENDRIN, Physician to La Pitié, Paris.

The present memoir comprises the diagnosis of aneurism of each of the three anatomical divisions of the aorta.—Aneurism of the *ascending* portion, when it becomes evident externally, appears in the form of an hemispherical circumscribed swelling, which pulsates isochronously with the heart. The skin is not altered in colour till the latter periods of the disease. The patient generally complains of pain in the tumour, which is increased during the systole of the heart, and which becomes oftentimes much increased by motion, and during the digestive process. The tumour is more or less painful to the touch, and pulsates strongly,

If the aneurism be so small as not to have arrived at the walls of the chest, it may be recognized still by its impulse and by a dull sound on percussion, which indicates that the corresponding portion of lung is pushed on one side. Auscultation also reveals a double "*bruit de choc*," and a dry friction sound; a to-and-fro sound, in fact, is sometimes interposed between the systolic and diastolic bruits. If the site of the aneurism, and the heart be simultaneously examined, it is easily perceived that the sound given out by the aneurism is different both in seat and quality from that of the heart. The diastolic sound of the aneurism does not coincide with the second sound of the heart, but precedes it.

When the aneurism of the origin and ascending portion of the artery consists in simple dilatation of the arterial tunics, it gives rise to certain peculiar signs. Auscultation at the right border of the sternum, and over the cartilages of the second and third ribs on the *right* side, reveals the existence of only one bruit, combined with an impulse, which is synchronous with, and in some cases difficult to distinguish from the systole of the ventricles.

The aneurismal bruit, however, is heard almost as distinctly behind as before—while the heart's action is nearly inaudible in the back; moreover, the bruit depending on the heart is heard on the left side, between the scapula and spine—the aneurismal bruit on the right. This difference in the sounds in the posterior aspect of the thorax is sufficiently diagnostic.

There is in some cases but little pain in simple dilatation of the ascending aorta; and in general it gives rise to no more than a sensation of uneasiness and fullness under the sternum. In this respect it differs widely from aneurism depending upon erosion of the arterial tunics.

If the ascending aorta becomes the seat of considerable dilatation, or be enlarged by aneurism from rupture of its coats, the trachea is usually pushed slightly to the left side. A difference in the pulse in the two wrists is generally considered to be a diagnostic sign of aneurism of the aorta; this sign, however, is equally perceptible in simple arteries, and therefore has no value as a diagnostic. Dyspnœa is one of the signs of aneurism; but when the tumour is situated in the ascending portion, it is not constant, but occurs only upon exertion or mental disturbance. If, however, the aneurism be sufficiently large to compress the principal divisions of the bronchi, the difficulty of breathing is continuous, and becomes suffocative when muscular exertion is made; and in such cases the compression is indicated by the existence of a sibilous râle. When the walls of the bronchi become inflamed in consequence of the pressure, expectoration of tenacious mucus is superadded, and should warn us of the near approach of one of the terminations of the disease, by rupture into the respiratory passages.

In some cases the compression is not limited to the bronchi, but is exercised also upon the origin of the pulmonary arteries, particularly those on the right side; the dyspnœa is then greatly aggravated, and the patient usually is attacked with hæmoptysis. Lividity of the countenance is likewise present in these cases, on account of the deficient arterialization of the blood.

The dyspnœa in cases of aneurism of the origin of the aorta, is often the result of a coincident affection of the heart or pericardium. Valvular disease and endocarditis form a serious complication, as they induce in general a greater or less amount of a ventricular hypertrophy. The proficient in auscultation will not confound the symptoms of these complications with those of the original lesion; but still the diagnosis often becomes sufficiently difficult to require attentive investigation.

It is a common opinion that the asthmatic paroxysm frequently depends upon disease of the heart and large vessels; it is not difficult, however, to distinguish real asthma from the dyspnœa of cardiac disease. The former

is truly paroxysmal, and oftentimes periodic, the intervals being in some cases of great duration. There is, moreover, constantly present a cough, with expectoration and sibilant râles. In general, emphysema may be recognised by the physical signs proper to that lesion. The diagnosis is further elucidated by the absence of the special signs of aneurism or morbus cordis.

Again, angina pectoris is frequently referred to simple or aneurismal inflammation of the origin of the aorta. This also is an error. The symptoms of the two affections are distinct; for instance, the substernal constriction, and the neuralgic pain extending down the left arm, which are the essential symptoms of angina, are not necessarily present in aneurism. Sudden death also is common in the former but not in the latter. [This will doubtless appear a bold assertion, but it is nevertheless the author's exact expression.]

Aneurism of the arch of the aorta is generally situated in the interval comprised between the origin of the arteria innominata and the left carotid and subclavian. The projection of the tumour shows itself in the space included between the internal third of the second right rib, and the corresponding portion on the left side. It is also sometimes perceived in the hollow between the insertion of the sternomastoid muscles. When the aneurismal tumour of this part of the artery becomes apparent to the eye, it gives rise to symptoms identical with those lately mentioned. The aspect of the tumour is the same, and the pain has the same character, with the exception that it is perceived, at the summit of the sternum, and between the shoulders. If the tumour does not project externally, its diagnosis is a matter of considerable difficulty, especially when the posterior portion of the arch is the part affected. The dullness on percussion in deep-seated aneurisms of the arch is somewhat obscure, and is therefore of little service as a diagnostic sign. The auscultatory phenomena are similar to those exhibited in aneurism of the ascending aorta, but are perceived in a different situation. In front they are heard at the summit of the sternum, and under the junction of the clavicle and first rib with that bone; behind, they are most evident on a level with the second rib, and close to the spinal column.

The deviation of the trachea is more decisive in aneurisms of the arch than in those of the ascending portion, but the apex of the heart is not displaced, as is occasionally the case in the latter. The pulse is deceptive as a diagnostic symptom taken *per se*, but is a valuable accessory sign, and is one by which we may judge of the exact site of the disease. If, as is commonly the case, the innominata is implicated in the aneurismal tumour, the pulse is feeble in the right wrist. When on the other hand, the left pulse is the feeble of the two, we may conceive that the disease is located at the left extreme of the arch.

The dyspnoea in aneurism of the arch, is subject to the same conditions as when the ascending aorta is the seat of the disease. It does not differ from the dyspnoea, which occurs in the latter case, unless the trachea be compressed. In that case, inspiration is remarkably difficult, and is accompanied by a whistling sound. In some cases the voice is enfeebled, or even entirely extinguished.

Of all forms of aortic aneurism, those affecting the descending part of the vessel are the most difficult to recognize. It is difficult to distinguish the impulse and the bruit, when perceived in front from those of the heart itself, but we may sometimes arrive at a diagnosis by compressing the abdominal aorta. This causes the second sound to cease, if it originates in the artery, but has no influence upon the cardiac bruits. If, however, to the double "*bruit de choc*," perceived in the front of the chest, is added a sibilant râle, and if the second sound slightly precedes the diastole of the heart, the existence of an aneurism may be considered certain.

The signs of aneurism of the descending aorta are perceived more plainly in the back than in the front of the chest. They are, as perceived in this situation, the double "*bruit de choc*," together with a rough or sibilant friction sound. If these signs are very evident, no doubt need be entertained of the existence of aneurism, especially if they are conjoined to a tearing, gnawing pain along the spinal column, which is aggravated by motion of the upper extremities.—*Ranking's Abstract of the Medical Sciences.*

## ON THE CHANGES IN THE URINE EFFECTED BY DISEASE, AND THE TESTS TO DISTINGUISH THEM.

By E. J. SHEARMAN, M.D., Member of the Royal College of Physicians of London, &c.

(Read at the Sheffield Medical Society, March 20, 1845.)

(Continued from page 138.)

3. We will now endeavour to point out the easiest modes of detecting the contents of diseased urine, under the following divisions—viz., 1. Crystalline contents; 2. Colouring matters; 3. Organic deposits.

The only necessary apparatus for these experiments are, a urinometer, test tubes, watch glasses, spirit lamp, and a good achromatic microscope. The re-agents are well known to the profession.

### CRYSTALLINE CONTENTS.

*Urea*.—When this is in excess, the urine is of a high specific gravity, and generally of a reddish colour. By adding an equal quantity of nitric acid in a watch glass, it crystallizes at the bottom very soon as nitrate of urea; when the urea is in excess, it soon becomes solid. By combining with two atoms of water, urea is converted into carbonate of ammonia; and this accounts for urine becoming alkaline and pungent soon after it has cooled. A little excess of mucus aids this process.

*Uric acid* or *Lithic acid* is the substance of which the greatest number of urinary calculi is composed. The urine is high-coloured; specific gravity generally above 1.020, and contains an excess of urea. Uric acid, acting on the phosphate of soda and ammonia, (or microcosmic salt,) existing in urine, is decomposed; urate of ammonia is formed, and phosphoric acid set free, which is the cause of the acid re-action of urine. So that uric acid is usually found in the form of urate of ammonia. To detect it—warm the urine containing urate of ammonia in a watch glass, and the uric acid becomes deposited at the bottom of the glass, and, when viewed by the microscope, is seen crystallized in red rhombic prisms. It is familiarly known by the names of yellow and red sand. Heat does not dissolve it. Pure uric acid is only soluble in 10,000 parts of water at 60 deg., and is insoluble in alcohol. Liquor potassæ dissolves it, forming urate of potass. Hydrochloric and acetic acids have no action. It is dissolved by nitric acid; and by evaporation, a pink colour (becoming a rich purple on being held over the vapour of ammonia) is produced. This is purpurate of ammonia. Exposed to heat in a platinum spoon, it burns, evolving an odour of bitter almonds, and leaving phosphate of soda and lime behind.

*Hippuric acid*.—This is rich in carbon, and found plentifully in the horse and cow. Evaporate the urine to a syrup, add excess of hydrochloric acid; uric acid and hippuric acid will then be separated, and fall to the bottom; pour off the supernatant fluid, and wash in cold water; boil the residue in alcohol, in which hippuric acid is soluble, and uric acid is not, from which it gradually crystallizes in delicate coloured needles, very visible under the microscope. It is soluble in four hundred parts of water at 60 deg.

*Urate of ammonia*.—This is the *lateritious sediment*, soluble in 480 parts of water at 60 deg. The colour of this urine is from pale to crimson; specific gravity from 1.012 to 1.025;

it often contains floating masses. The deposits are from fawn colour up to purple; they never appear until the urine has cooled, and disappear by heat. Liquor ammoniæ and liquor potassæ dissolve them. The floating masses disappear by heat, contrary to albumen. When it becomes turbid from a drop of nitric acid, the microscope will show crystals of uric acid. A drop of urine containing urate of ammonia, examined on glass by the microscope, shows an amorphous powder, composed of myriads of minute globules; but add a drop of hydrochloric acid, the muddiness disappears, and crystals of uric acid will be seen, the ammonia having deserted the urate to combine with the acid. The colour of urate of ammonia is always owing to its union with purpurine. It is quite white when pure.

In examining numerous large deposits of urate of ammonia under the microscope, I have always found, on the addition of weak nitric acid, an appearance of globules so like pus, but more coloured, that I cannot avoid mentioning it particularly, for I have never seen it named by any author; and it is so constant in its appearance, that I am led to conclude it depends on some chemical combination of the animal matter of the urea with the nitrogen of the nitric acid.

*Urate of soda.*—Very rare, except in gouty diathesis, and fever treated by carbonate of soda. Heat does not dissolve the deposit so quickly as it does urate of ammonia.

*Uric oxide, xanthic oxide.*—Very rare, supposed to have some connexion with the yellow colouring matter of the urine, (hæmaphæin.) It resembles uric acid if noticed inattentively. Colour is salmon or cinnamon tint, not so red as uric acid. The deposit caused by uric oxide is a grey powder to the naked eye, but under the microscope resembles small particles of yellow wax. It is insoluble in solution of carbonate of potass, whereas uric acid is soluble. Ignited in a tube, it does not yield urea, and uric acid does.

*Cystine.*—This is very rare, and contains 26 parts in 100 of sulphur. This urine looks like diabetic urine, but it is of a very low specific gravity. It smells of sweet briar when fresh, but soon putrefies, and evolves sulphuretted hydrogen. It is usually found in scrofulous habits. Cystine forms a deposit like the pale variety of urate of ammonia; but, unlike that deposit, it is unaffected by heat, and it very slowly dissolves on the addition of nitric or hydrochloric acids. It is soluble in the mineral, and insoluble in the vegetable acids. Soluble in ammonia, the fixed alkalies and their carbonates, but insoluble in carbonate of ammonia. By heating on platinum foil, it burns with a disagreeable odour. An evaporated solution of cystine in ammonia under the microscope, crystallizes in six-sided laminæ very distinct. It requires caution to distinguish this from chloride of sodium in urine, which naturally crystallizes in cubes, but when combined with urea assumes an octahedral shape. The ammoniacal solution stains a white-glass bottle black, from the combination of the sulphur of the cystine with the lead of the glass.

*Oxalate of Lime.*—This salt was considered very rare in the urine, but Dr. Golding Bird has proved, in his lectures in the *Medical Gazette*, that it is even more common than the earthy phosphates. The urine is acid, has a naturally healthy appearance, the specific gravity from 1.015 to 1.025, generally with some epithelial scales, and always with a large quantity of urea, uric acid, or urates. To discover the oxalate of lime, set aside the chylous urine for many hours in a glass vessel; decant the upper eight-tenths of it; pour a little of the bottom into a watch-glass, warm it, and the oxalate will fall to the bottom; remove the top part of the fluid with a pipette, and under the microscope we find the beautiful transparent octahedral crystals of oxalate of lime; collect and ignite the crystals on platinum foil, oxalic acid is decomposed, and carbonate of lime left, which dissolves in dilute nitric acid, with effervescence. These crystals are unaltered by boiling in acetic acid, or solution of potass. They dissolve without effervescence in nitric acid.

*Ammonia, or phosphate of soda, or microscomic salt.*—This is usually decomposed by uric acid in the bladder: urate of ammonia is formed, the phosphoric acid being set at liberty, which becomes the source of the natural acidity of the urine. The very small proportion of soda combines with uric acid, forming urate of soda.

*Ammonia-phosphate of magnesia, or triple phosphate, and the phosphate of lime,* are nearly insoluble in water, unless it contains a very small proportion of any acid, or hydrochlorate of ammonia; consequently, in healthy urine these earthy phosphates are held in solution by the phosphoric acid. This urine is generally pale, wheylike, plentiful, and of low specific gravity, 1.005 to 1.015. When the urine is alkaline from disease, these salts deposit, and are always white, unless coloured with blood. They are soluble in weak hydrochloric acid, and insoluble in ammonia and liquor potassæ. Heat agglomerates the deposit into masses, but produces no other change. By adding a small quantity of ammonia to urine containing any earthy salts, deposits of triple phosphates take place, which, under the microscope, are seen either in minute white triangular prisms, stellæ or acicular prisms, or foliaceous crystals, and are very easily detected. These disappear on adding a drop of any acid. When the urine is alkaline these deposits are abundant.

*Phosphate of lime* is never found in crystals. It is a very opaque sediment, and a drop examined by the microscope between plates of glass, appears white by reflected, and yellow or brown by transmitted light.

To distinguish the deposits of the triple phosphates from pus and blood, nothing but their appearance under the microscope can be depended upon. From mucus, add hydrochloric acid, which will dissolve the phosphates, but not the mucus. From albumen add nitric acid, which dissolves the phosphates, but deposits the albumen.

*Carbonate of lime* is sometimes met with as a deposit in alkaline urine. It is formed from the decomposition of phosphate of lime by the carbonate of ammonia. To discover it, wash the deposit well with water, which dissolves the carbonate of ammonia, and add any dilute acid, which will dissolve the carbonate of lime with effervescence. Examined by the microscope, they appear beautiful small transparent spheres, like globules of glass, and strongly refract light.

*Silicic acid* has very rarely been found as a deposit in urine, but it is often used by impostors, which it is necessary to be aware of.

#### COLOURING MATTERS.

*Purpurine.*—This is a substance of great consequence to become acquainted with, as its presence always indicates serious functional or organic mischief in some of the organs connected with the portal circulation. It has been considered as the same substance as purpurate of ammonia, or the murexide of Liebig; but Dr. G. Bird has clearly proved it to be a substance *sui generis*. Purpurine is quite soluble in alcohol; purpurate of ammonia is insoluble. It always combines with urate of ammonia, causing that deposit to vary in tint from a mere flesh colour to the deepest carmine, and is often mistaken for blood. To distinguish it, dissolve the purpurine in alcohol, examine the rest under the microscope, and the absence of blood-discs will prove it. Of course, the appearance under the microscope is that of amorphous red urate of ammonia. If a small quantity is suspected, add hydrochloric acid to the warmed urine, and a colour, varying from lilac to purple, will immediately be produced, if purpurine be present. By evaporating urine containing it to a syrup, and digesting it in alcohol, we obtain a purple tincture, which colour is heightened by acids and diminished by alkalies. The specific gravity of urine containing this substance varies from 1.015 to 1.030; it is not altered in colour by boiling; nitric acid added to it often produces a copious deposit of uric acid, often mistaken for albumen.

**Cyanurine** gives a blue colour to urine ; it deposits as a blue powder, which may be separated by filtering ; freed from mucus, urates, and phosphates, by washing with water, and digested with hot sulphuric acid, from which it must be carefully precipitated by magnesia ; or it may be obtained by boiling the blue deposit in alcohol, and evaporating it to dryness. It is insoluble in water ; moderately soluble in boiling alcohol ; soluble in diluted acids, which become brown or red. The solution, in sulphuric acid, leaves, by evaporation, a carmine-red extract, soluble in water. It is precipitated, unchanged, from an acid solution by ammonia, lime-water, and magnesia. It forms a red colour by dissolving in a hot solution of alkaline carbonates, and a brown one in pure alkalies. Distinguished from indigo by not sublimating when heated in a tube, and from percyanide of iron by not yielding sesquioxide of iron, when treated with carbonate of potass ; very rare.

**Indigo** gives a dark-blue colour, which deposits by repose in urine, and may be collected on a filter. It dissolves in strong sulphuric acid, forming a purple solution. Nitric acid converts it into nitro-picric acid ; carefully heated in a tube, it sublimes in purplish red crystals. The best test is, to heat the deposit in a tube, with a little grape-sugar, in a mixture of equal parts of alcohol and liquor potassæ ; the blue colour disappears and it becomes yellow. By agitation and exposure to the air it becomes red, and at last green—from the reproduction of blue indigo. This also is rarely met with.

**Percyanide of iron**, or Prussian blue, now and then occurs when iron has been taken some time as a medicine, by combining with cyanogen—the result of the re-arrangement of the atoms of urea. It consists of a blue powder, insoluble in water and alcohol. Digested with liquor potassæ its colour is destroyed, sesquioxide of iron being liberated, and a yellow solution of ferrocyanide of potassium being formed. This solution is precipitated blue by sesqui-salts of iron, and brown by sulphate of copper.

**Melanourine and melanic acid** are rarely found in urine ; their chemical composition is not yet sufficiently known.

**Hæmaphæin** is the yellow colouring matter of the urine, which gives to urate of ammonia its yellow colour.

**Cholesterine** is a substance very rich in carbon, is supposed partly to give the colouring principle to the bile, and is often detected in urine in the form of bile.

#### ORGANIC DEPOSITS.

In addition to the former substances found in urine, the elements of blood, albumen, hæmotosine, and blood-discs, pus, mucus, organic globules, epithelium, milk, fat, sugar, bile, spermatozoa, and vibrones, are often discovered. Very few remarks on each of these substances may suffice.

**Blood**.—Urine containing blood coagulates into blackish masses, like currant jelly, and often comes from the urethra in pieces like leeches. The urine containing the liquor sanguinis coagulates spontaneously, and looks like blanc-mange, owing to the fibrin in it. To detect blood, boil and filter the urine ; brown coagula of hæmotosine and albumen will remain on the filter. Add liquor potassæ, and if blood be present, a greenish solution will pass through, from which white coagula of protein may be precipitated by hydrochloric acid.

Urine containing blood becomes darker in colour by boiling, but not so if the colour is owing to purpurine. Uric acid is not affected by heat, and is distinguished by the microscopic character of the deposit ; bile, by its characteristic tests ; hæmatoxylin, by the dark precipitate produced by sulphate of iron, and absence of coagulation by heat.

The blood-corpuscles, particles, discs, or globules, are shown most distinctly by the microscope, as little rings ; but, by minute examination, are really double concave discs, of a uniform size, and yellow colour.

**Albuminous urine** is clear, straw-coloured ; sometimes a dingy red, from blood, and then it contains less albumen. Its specific gravity ranges from 1.008 to 1.012. It may be de-

tected by heat, nitric acid, bichloride of mercury, ferrocyanuret of potassium with acetic acid, and caustic potass.

1. Put the urine into a test tube, hold it over a spirit-lamp, and, if the urine is acid, and contains albumen, it will become opaque without boiling ; and the more albumen it contains, the more solid will the urine become as the heat is increased. If the precipitate is owing to the earthy phosphates, it disappears by adding any acid. Sometimes heat, long continued to ebullition, will produce a deposit from urate of ammonia, but this only occurs from the long continuance of the ebullition. If the urine is alkaline, heat will not deposit albumen, but nitric acid will.

2. By adding *strong nitric acid* to albuminous urine in a test tube, an immediate coagulation of albumen occurs ; but this happens sometimes in patients under the influence of copaiba, cubebs, and other resinous drugs ; and is distinguished from albumen by not being deposited by heat.

3. A saturated solution of *bichloride of mercury* precipitates albumen a dense white.

4. *Ferro-cyanuret of potassium* gives a flocculent precipitate (white) with albuminous urine, to which a few drops of acetic acid has been added.

5. A solution of *caustic potass* produces a white precipitate of gelatine.

**Pus**.—This urine is generally acid or neutral, and slow to become putrid ; by repose, pus falls to the bottom, like cream, of a greenish colour, not hanging in ropes like mucus, and mixing with the urine on agitation, acetic acid having no effect on it. On mixing the deposited pus with an equal quantity of liquor potassæ, a dense, semi-opaque, gelatinous mass is formed, which can scarcely be got out of the tube. Albumen can always be detected in the urine containing pus. Agitated with æther, fat is dissolved ; which, on evaporation, is found in globules. Alkaline urine requires great care in detecting pus. Phosphatic deposits sometimes resemble pus very closely ; but by microscopic examination the pus particles are distinctly seen floating in liquor puris, which is coagulated by heat and nitric acid ; they are white, round, roughly granulated outside, and much more opaque than blood corpuscles. By adding a drop of acetic acid to them while under the microscope, the interior of the particles becomes visible, and is found filled with several transparent nuclei. The earthy phosphates give their usual crystalline appearance.

**Mucus**.—Urine depositing mucus is generally alkaline ; it soon putrefies ; becoming almost ammoniacal in the bladder. It is very viscid and tenacious, forming a continuous rope when poured from one vessel to another. If the upper stratum of urine is acid, the mucus is always alkaline. Mucus will not mix with urine as pus does.

*Acetic acid* corrugates the mucus into a thin, semi-opaque membrane, which at once distinguishes it from pus. Mucus urine contains no albumen. Æther dissolves scarcely any trace of fat. When the urine contains a large quantity of earthy phosphates, it is difficult to distinguish between pus and mucus, except by the microscope. The microscopic appearance of mucus granules is very like pus, but they float in a viscid glairy fluid, (liquor mucii,) which does not coagulate by heat or nitric acid.

**Organic globules**, large and small, can only be detected by the microscope ; they are larger than pus and mucus granules, and have a darker colour. They are very common in albuminous urine.

**Epithelium**.—These are a part of the mucous membrane of the genito-urinary organs. Under the microscope, they appear like oval or angular flattened cells, with a centre nucleus.

**Milk**.—In utero-gestation, I have found milk in the urine : and Dr. G. Bird gives very clear and satisfactory proofs of its frequent occurrence. To detect it, allow the suspected urine to repose in a cylindrical vessel, exposed to the air, for several days, and the milk (kiestein) will rise to the surface in a fat-like scum, remaining permanent for three or four days.



**Fatty urine** has the appearance of diluted milk ; it often spontaneously gelatinizes, like blanc-mange, on cooling. This is called chylous urine by Prout. On agitating the fresh urine with an equal bulk of æther, the fat is dissolved, and when the æther is evaporated in a watch-glass, it leaves globules of oil. The urine always contains albumen.

**Spermatozoa.**—When in the acid urine of a man there exists a cloud, which is not cleared by nitric acid or heat, this may be suspected. Allow the urine to subside in a conical vessel ; decant the top, and view a drop of the bottom under the microscope. These minute beings will be easily detected as minute ovate bodies, with a bristle-like tail ; which is more distinct when viewed dried on the glass.

**Bile** often tinges the urine a deep-brown colour. In addition to the old method of dipping in a bit of linen, and drying it, the following are the best modes of detecting bile :—

Pour a small quantity of urine on a white plate, so as to form a very thin layer. Carefully add not more than a couple of drops of nitric acid in the centre ; an immediate play of colours, in which green and pink predominates, results.

Add to a few drops of the urine, on a white plate, a little strong sulphuric acid ; when the mixture becomes hot, add a drop of saturated solution of lump sugar. It immediately assumes a fine purple colour.

**Sugar** is the principal ingredient in the urine of diabetes mellitus. It is generally clear, of a lemon colour, secreted in large quantity, and of the specific gravity of from 1.030 to 1.055. When this urine is left in a warm place, a scum forms on its surface, which, if examined by the microscope, consists of what are called torulæ ; and if put into syrup, grow so quickly as to be seen under the microscope almost increasing. The sugar of this urine is like the grape sugar. The following are the best tests :—

1. Evaporate the urine to an extract ; digest it in hot alcohol ; when cold, allow the tincture to evaporate spontaneously in a cupping glass, when white granular masses of sugar will crystallize on the sides of the glass.

2. **Trommer's test.**—Add to the suspected urine, in a large test tube, just enough solution of sulphate of copper to make it a faint blue, a deposit of phosphate of copper falls ; add liq. potassæ in great excess, hydrated oxide of copper first falls, which re-dissolves in the excess of alkali, forming a blue solution like ammoniuret of copper. On gently heating the mixture to ebullition, a deposit of red oxide of copper falls.

3. **Capezzuoli's test.**—To the urine in a conical glass vessel add a few grains of blue hydrated oxide of copper, and render it alkaline by the addition of liquor potassæ. If sugar be present it assumes a reddish colour, and in a few hours the edge of the deposit of oxide becomes yellow, which gradually extends through the mass, from a reduction of the oxide to the metallic state.

4. **Moore's test.**—Add to 3ij. of the suspected urine in a test tube, half its bulk of liquor potassæ ; heat it over a spirit lamp, and keep it boiling for a minute or two ; the pale urine will become an orange brown, or bistre, according to the proportion of sugar present.

**Vibriones** are minute animalcules, occasionally developed in urine, which is pale, neutral, and of a low specific gravity, and speedily becomes putrid. Under the microscope these animals appear minute linear bodies, not so long as the diameter of a blood-disc ; they are alive, and move, in an oscillatory manner, in fresh urine.

5. To recapitulate.

Gentlemen, I will only detain you another moment, while I beg to assure you that it is a very easy task, after a very few trials, to discover, in a few minutes, the contents of almost any ordinary specimen of urine ; and without this knowledge, it is quite impossible to become acquainted with the changes which are constantly occurring in the urinary organs.

For instance, you are called to a patient complaining of

excruciating and deep-seated pain in the abdomen, shooting down the thigh, which resists the usual soothing mode of treatment. Examine the urine, and you may there find blood, pus, oxalate of lime, uric acid, or phosphates. This at once explains the nature of the malady, and you can confidently tell your patient that he has a small calculus of a certain description in the ureter, and your treatment is no longer empirical. Or you may be consulted by a person with various anomalous symptoms of a cachectic nature, which you would find it impossible to give a name to unless you examine the urine chemically, when you discover either albumen, sugar, or oxalate of lime excreted ; and this at once explains the case.

A patient consults you, much reduced in strength, depressed in spirits, and emaciated, his appetite being good, and digestive organs healthy, as far as you can discover, there being no evident cause for such a state. Take the specific gravity and quantity of the urine. If it is high, without deposit, and the quantity not great, add nitric acid to it in a watch-glass, and you will most likely discover a large quantity of urea, sufficient at once to account for the symptoms ; or if the quantity of urine be large, you may discover sugar.

During the course of febrile and inflammatory diseases, urate of ammonia is generally deposited. But if the symptoms increase, instead of diminish, under this deposit, examine it, and perhaps you may find the deposit to consist of phosphates and purpurine, and the urine alkaline. This will at once warn you to be watchful of your patient, and cautious in your prognosis.

Suppose you have a surgical operation to perform on a patient apparently out of health, but with no decided disease. If, on examining the urine, you find albumen, oxalate of lime, or the ammonio-phosphates of magnesia in abundance, you may feel assured the person is in an unfit state to bear any operation ; and by waiting, and attending to his general health, you will feel more confidence in the successful event of such an operation.

Although Sir B. C. Brodie, Dr. Prout, and other late writers on diseases of the kidneys, have laid great stress on the cachectic state of the system, accompanied by alkaline urine, it was reserved for the splendid discoveries of Bright and Bird to elucidate the real value of these pathological changes.

The little that I already know of this subject has convinced me that, when properly studied by medical practitioners, they will find in it as true a diagnosis to the diseases of the abdominal and extra abdominal viscera, as percussion and auscultation are to the diseases of the chest.

The various deposits of a great number of specimens of urine were then successively exhibited to the members.—*London Lancet.*

## ON THYMIC ASTHMA.

BY M. TROUSSEAU.

A great deal has been written of late in Germany, says M. Trousseau, on *thymic asthma*—a disease first described a few years ago by Mr. Hood of Kilmarnock. In this “newly discovered” disease, the thymus gland is stated to give rise to convulsions and sudden death in infants by its enlargement. The existence of such an affection was from the first questioned by French pathologists, and M. Trousseau now states that his researches have proved to him, in the most satisfactory manner, that there is no such disease. The facts brought forward by the German physicians must be admitted, he states, but the interpretation which they give of these facts is erroneous. Instead of being instances of an undescribed form of disease, they are merely illustrations of *partial convulsions*. The analysis of the phenomena of convulsions in children has proved to M. Trousseau that such is the real nature of the cases narrated by Kopp and other physicians, as examples of thymic asthma, as well as

partly, of others described under the name of *laryngismus stridulus* or *acute asthma* of Millar. The following is a brief analysis of M. Trousseau's views on the subject:—In children, convulsions (*éclampsie*) generally present the epileptic form. The child screams, becomes stiff, twists its body, the thorax being fixed, and the respiration suspended. The face, at first pale, becomes violet; the veins are distended; then follow clonic spasms, at first rapid, then slow; after which a deep expiration and general muscular relaxation close the fit leaving more or less somnolence and stupor. The attack lasts one or two minutes. One paroxysm may be followed nearly immediately by another; indeed, they may succeed each other indefinitely, constituting an "état de mal."—But when this is the case, the convulsions are not continuous, although sometimes considered so. They may however, be continuous, and last for hours, or even days.—When this is the case, the attack is often ushered in by an epileptic paroxysm, as above; but the spasms, instead of ceasing, are repeated every second, or at short intervals.—The convulsions are continuous, because there is never any complete cessation, nor the deep stupor which follows an ordinary paroxysm. In this form of convulsion, the child, although convulsed, does not lose all consciousness—an important feature in the disease. He cries, to express a want, or to complain of a pain, and is able to withdraw his hand when it is pinched or tickled. The convulsion is not therefore as universal as it appears, it is, rigorously speaking, *partial*.

Convulsions may be still farther localized. After a severe epileptic attack, one half of the body may remain for some hours affected with clonic spasmodic motions, and yet the intellect of the child be clear, and the motions of the other side of the body harmonious.

The convulsions hitherto described are easily recognized; but convulsions may be internal as well as partial, and then they are by no means so easy to appreciate; then, also, it is, that difference of opinion as to interpretation of the symptoms begins to be entertained. Internal convulsions are partial convulsions, occupying more particularly the muscles of the globe of the eye, of the pharynx, of the larynx, and of the apparatus of respiration. The most ordinary form of internal convulsions is characterized by turning of the globe of the eye with mobility, nearly total loss of consciousness, or at least a certain amount of stupor, extreme difficulty or impossibility of deglutition, and by respiration uneven, sometimes scarcely perceptible, sometimes deep and blowing—in a word, by an attenuation of most of the phenomena of epilepsy, and by the absence of the violent convulsions of the limbs and face.

Sometimes the diaphragm and the inspiratory muscles of the abdomen and of the chest alone act, and then, for one, two, or three minutes, a peculiar laryngeal blowing sound is heard, as if there existed an obstacle to the entrance and to the exit of the air. If the proper muscles of the larynx are at the same time convulsed, as their motions do not coincide, the disordered condition of the respiration appears alarming, although it is only really so when this state is much prolonged. Such is the real explanation of those states of disordered respiration which have been called thymic asthma, or laryngismus stridulus. A want of harmony between the spasmodic motions of the diaphragm, and of the muscles which move the arytenoid cartilages is sufficient to produce the laryngeal sibilus, the orthopnea.—In the regular act of inspiration, the superior part of the larynx opens at the same time that the diaphragm descends, and produces a vacuum in the chest. If the contraction of the diaphragm takes place too rapidly, and if, at the same time, there is a spasm of the larynx, as in the whooping-cough, the inspiration becomes nearly impossible, and is accompanied by a violent sibilus. In the case which we are examining, however, it is not necessary to call to our

assistance a want of harmony between the movements of the diaphragm and those of the muscles of the larynx; it is sufficient to suppose that the will or the instinct no longer preside, for a moment, over the movements of the arytenoid cartilages; the muscles which move them, no longer obeying any nervous impulsion, are for the time in the condition of those of animals in whom the recurrent laryngeal nerve has been divided.

The above details explain how it is that thymic asthma, so frequent in the eyes of some observers, is never found by others. The former attribute to an increase in size of the thymus, accompanied by paroxysmal accidents, what the latter consider to be merely one of the forms of convulsions in children. The thymus, like the supra-renal capsules, is an organ of transition, destined to become atrophied after the birth of the human fœtus, and less than any other organ likely to be hypertrophied. During the six years that M. Trousseau has been at the head of important wards for very young children, he has not once met with the thymus gland sufficiently enlarged to give rise to the slightest accident.

M. Trousseau concludes his essay, by promising, in a future article, to point out the connection which exists between convulsions and laryngismus stridulus and the acute asthma of children. At the same time, he thinks it right to state, that these diseases are not mere forms of infantile convulsions, as is the case of thymic asthma.—*Dub.M.Press.*

#### YELLOW FEVER OBSERVED IN PARIS.

The *Gazette des Hôpitaux* for August, contains the account of a case of typhus which has recently occurred in the wards of M. Rayer, at the Charité, and which presented most of the symptoms peculiar to the yellow fever of tropical climates. It may also be compared to the fever recently observed in Scotland, and so admirably described by Dr. Cormack.

On the 30th of June, 1845, a man named Thomas, of strong constitution, entered M. Rayer's male ward. He had been ill for a few days only. The following were the symptoms presented:—Yellow orange tinge of the entire body; skin dry and hot; the eyes and inferior surface of the tongue yellow; the superior surface of the tongue covered with a mucous fur; nausea; slight tympanitis of the abdomen, which is painful on pressure in the right hypochondrium; liver of normal size on percussion; the stools coloured by bile, not abundant; urine deeply tinged with bile; no abnormal thoracic symptom, but acute pain is felt in the hepatic region on deep inspiration; pulse full, frequent, but regular. The patient only complains of pain in the right hypochondrium, and of intense cephalalgia. Venesection to twelve ounces. Blood presents a thick buff.

July 1st. Same state. To be cupped on the hepatic region; blister on the same region. Saline purgative.

2nd. Vomiting sets in; the matters vomited are black and sanguinolent; the stools, liquid and abundant, contain black blood and feces tinged with bile; the pulse is very frequent; cephalalgia; somnolence; tongue dry and cracked; teeth presenting a brownish crust at their basis; abdomen meteorized, not painful on pressure.

This state persisted on the 3rd and 4th. On the 5th, slight delirium appeared; no spots or ecchymosis on the skin, universally of an orange-yellow. On the 6th, the state of the patient seemed improved. A number of small conical elevations appeared on every part of the body, similar to those of variola in its first stage. On the 5th, these elevations had formed so many red ecchymotic spots, like those of hæmorrhagic roseola. There was, however, no symptom of roseola. The patient appeared indeed better, although still in a state of semi-somnolence. On the 8th, the somnolence had increased; an eschar appeared on



the sacrum ; the stools were still sanguinolent. On the 11th, the eruption disappeared ; somnolence and general depression increased ; nausea, but no vomiting. On the 12th, he remained in a state of comatose sleep, and died suddenly on the 13th.

*Autopsy twenty-eight hours after death.*—The body is in a state of advanced putrefaction ; the epidermis separating with the greatest ease ; icteric tinge of the skin the same as during life ; no effusion of blood in the intermuscular spaces ; lungs healthy, but containing a considerable quantity of mucus and blood ; heart soft, containing black blood ; the mucous membrane of the stomach softened, of the colour of dregs of wine ; the duodenum presents traces of sanguineous suffusion, and contains yellow bile ; the rest of the intestines contain mucus coloured with bile ; Peyer's glands are not enlarged ; no morbid alteration in the large intestine ; the liver presents the usual volume ; it is soft, of an uniform icteric tinge ; the vena porta, vena cava, and its principal divisions, are healthy, and contain black fluid blood ; the biliary vesicle contains a considerable quantity of blood ; the spleen is soft, of normal volume ; the kidneys soft, yellow, nearly diffuent ; the brain soft, and presenting the icteric tinge.—*Lancet*.

## SURGERY.

### ON ARTIFICIAL ANUS.

By SIR P. CRAMPTON, Bart., Dublin.

[In the excellent memoir on this subject, which appeared lately in the British and Foreign Medical Review, (see *Retrospect*, Vol. X., Art. 58,) the reviewer regrets that for want of a sufficient number of facts, a very material point has been left undecided—namely, as to whether the power of retaining the fæces continues after the perineal operation of M. Amussat.

Sir P. Crampton, at a meeting of the Dublin Surgical Society, said it would give him great pleasure to supply this hiatus, by detailing the results of an operation for artificial anus performed by M. Amussat about nine years since.]

The nature of this congenital deformity was as follows :—“The vagina and anus were both naturally formed externally, but the recto-vaginal septum was deficient above, and only existed inferiorly to the extent of about one-third of an inch, so that the finger could be passed from either canal into the other. The upper portion of the rectum had no communication with the *cloaca* common to the vagina and the anal portion of the rectum, but its closed extremity could be felt at a height of about two inches towards the left sacro-ischial angle. The anus thus communicated directly with the vagina above the imperfect septum already mentioned, but had no connection with the rectum, which terminated two inches above it, and was, in fact, properly speaking, *deficient* to that extent. Under these circumstances, M. Amussat determined to make an incision anterior to the coccyx, but posterior to, and not involving the vaginal anus, to detach the posterior wall of the vagina from the coccyx and sacrum with the finger or the knife, to reach the cul-de-sac of the rectum, seize it with a hook, detach its entire circumference rather with the finger than by the knife, draw it down to the external wound, open it freely, give exit to the meconium, and secure, by points of interrupted suture, the edges of the opening in the intestine to the lips of the cutaneous wound.” For two months the child went on well, the opening being maintained by the introduction of an ivory stopper, not much thicker than a full-sized quill, or moderately-sized pencil case. The introduction of the stopper, however, became more and more

difficult every day, and at length the child's mother found it impossible to introduce it. The child was then brought to him (Sir P. Crampton) in the following state :—She passed, with considerable pain, a small quantity of semi-fluid fæces, and appeared in great agony, under which she must have very soon sunk. He enlarged the opening to such an extent as to receive a bougie of sufficient size, the introduction of which it is still necessary to repeat for a few hours almost every day. This case then, he would say, supplies the desideratum mentioned by Dr. Williams, for it appears that the rectum has full power of retaining the fæces. M. Amussat had been severely criticized for not having operated so as to restore the original anus, by dividing the partition which separated it from the rectum above, and so restoring the continuity of the canal : but in that case it would have been impossible to have saved the child from the misery of a recto-vaginal opening that would have admitted of a free passage of fæces from the rectum to the vagina. Whatever may be the ordinary condition, then, of the parts in artificial anus, as relates to the existence or non-existence of a sphincter and levator ani, no such structure could have exercised any influence in the case in question, as the artificial anus was formed between the coccyx and the rectum. M. Blandin's apprehension therefore that incontinence of fæces must be the result of the perineal operation, in consequence of the non-existence of a sphincter, is without foundation.

[Dr. O'Beirne thinks that this case produces abundant evidence of what he has endeavoured to establish—viz., that the existence of a sphincter is not absolutely necessary to the retention of the fæces. This necessity, he believes, is to be attributed to the contracted state of the upper part of the rectum.

Dr. Ireland has taken the trouble to obtain answers to queries on the subject from a lady who had suffered from this accident. One of the facts elicited was, that after the bowels were freed, she had merely to perform the necessary ablutions, and from that time till the next stool, the vagina and rectum remained perfectly free from fæces.

Dr. O'Beirne considers that it is our duty, if possible, to avoid making an opening into any part of the colon, and that in cases of stricture it might be avoided. The failure in the use of instruments in cases of spasmodic stricture, he attributes to want of sufficient boldness in their use, and mentions a few facts to embolden practitioners, and to show the impunity with which the most obstinate constriction of the bowel in question might be overcome.]

These facts were as follow :—Of all the diseases in which constipation is most obstinate, tetanus is certainly the one. In some cases of this disease which had terminated fatally, he succeeded in passing the instrument to a considerable height, but only by means of long-continued, gradually increasing, and determined pressure against the point of resistance ; when first he used this force, he remembered the instrument passed rapidly upwards, as if through a narrow ring, giving to his hand a sensation as if he had perforated the walls of the intestine ; accordingly he withdrew the tube, and was much pleased to see its extremity coated with fæces, and bearing no marks of blood. This circumstance had occurred to him not once but twenty times in the treatment of those fatal cases to which he alluded. In those cases it was found after death that the whole of the colon was so enormously distended as to conceal the other intestines, and to equal in size the thighs of a very large man, while the uppermost part of the rectum was contracted to the diameter of the barrel of a quill, but felt much firmer. On cutting into the intestine at this point, neither the serous nor the mucous coat were found in the least thickened, neither did the muscular coat exhibit any signs of thickening other than that caused by the powerful contraction of its fibres upon themselves. It was quite evident in these

cases that even this firm stricture was forced at each introduction of the instrument, so as to enable the bowels to be freed. Why, then, should we be deterred from employing a sufficient degree of force in other cases when the degree of resistance is infinitely less? When the difficulty of introducing the tube is great, the application of a blister over the sacrum, extending up a little on the spinous processes of the lumbar vertebrae, would be found a considerable assistance; and in order to effect this rapidly, if the case be very urgent, a sponge should be impacted into a tumbler, boiling water poured upon this, throwing it off repeatedly in order to produce the necessary degree of heat, and then the tumbler could be inverted over the part to be blistered. Having thus disposed of spasmodic stricture, he would now say, that in cases of the organic kind, every success might be obtained by the same means, with this difference—namely, the use of small tubes gradually increased in size. With respect to malignant stricture of the rectum, he was of opinion that this might be a legitimate case for the lumbar operation.

[Dr. Williams says that the great difficulty in the formation of an artificial anus in the lumbar colon consists in the difficulty of distinguishing the colon from the small intestine, for the signs mentioned by M. Amussat, whether taken separately or collectively, are not diagnostic, consequently there is always a risk of opening the peritoneum, and thus sacrificing the entire principle and chief advantage of the operation. M. Amussat has however discovered a sign which bids fair to do much towards removing the difficulty in question.]

This sign rested on the fact that the small intestines sustained a motion of alternate ascent and descent corresponding to expiration and inspiration, in which the lumbar colon did not participate; if, therefore, the exposed intestine presented this oscillation, it was the small intestine—if it did not, it might be presumed to be the colon. As M. Amussat made no mention whatever of this distinctive sign in any of his publications on the subject, it was very satisfactory that it had now been made known and recorded.

[At another meeting of the Surgical Society of Ireland, Dr. O'Beirne states that in his work on Defæcation, he thought it was satisfactorily shown that the cæcum is perhaps of all parts of the intestinal canal, that most peculiarly subject to large accumulations, while at the same time there may be no fæcal matter in the sigmoid flexure of the colon.]

In the natural process of defæcation, as it is called, the difficulty of transferring the load from the cæcum to the sigmoid flexure was formerly a kind of riddle to physiologists: the fæcal matter having obviously to rise, not only against gravity, but being also resisted by a quantity of flatus, which acts as powerfully as air would if admitted into a thermometer to resist the rising of the mercury. In his work he has satisfactorily shown how the transfer takes place, and how the introduction of the tube, by permitting the flatus to escape, so materially assists that transfer.

[Dr. Woodroffe then mentioned that he had been at Paris lately, and through the kindness of M. Amussat, had seen the patient on whom he had recently operated.]

She opened her dress, took off a belt she wore round her waist, and withdrew a *bouchon*, with a tape attached. While he (Dr. Woodroffe) sat near her, he could not detect the slightest offensive smell, nor was there the least redness or excoriation of the skin in the neighbourhood of the opening. While the plug was withdrawn she allowed him to pass in his finger, which he did to a considerable extent before he reached the intestine. He would observe that she appeared to have a sort of sphincter power over the opening, being able to repress the discharge by an effort of the will; she had perfect use, too, of all the muscles of the

trunk. Having arranged her dress she left the house, and he was surprised to see her trot along the street at the rate of four miles an hour.—*Dublin Medical Press*, Feb. 1845, p. 117.

### CASE OF POPLITEAL ANEURISM CURED BY COMPRESSION.

In the last number of the *Provincial Journal*, Mr. Jolley surgeon to the Torbay Dispensary, relates a case of popliteal aneurism cured by pressure upon the artery above the tumour. The author of it appears to be ignorant of the successful results of the treatment of aneurism by compression in Ireland within the last few years. "Three successful cases (he observes) have been published, two by Mr. Liston, and one by Mr. Greatrex, surgeon of the Guards. I believe (he adds) we are indebted to Mr. Liston for this new era in surgery." We cannot help saying that it would be most desirable if gentlemen, in prefacing their cases by statements of this nature, would take the trouble previously to ascertain their correctness, and to inform themselves of the exact facts; instead of but three cases, twelve have been already published, eight of which were treated in Dublin, where also this method was re-introduced by Dr. Hutton, and shown to be effectual, simple, and but little painful.

We quote Mr. Jolley's case now, because if the clumsy and unscientific mode of using pressure by a tourniquet can succeed in curing an aneurism, compression, carried out in the way in which it has been employed in Dublin, is far more likely to be effectual.

"Thomas Wotton, aged 38, applied at the Torbay Dispensary in July, 1844. He stated that in April he used great exertion in walking from Teignmouth; when within a short distance of his abode, he was suddenly attacked with pain behind his right knee, and with difficulty reached home. On his arrival he found a swelling of the size of a walnut, which throbbd violently; he was unable to rest, and on the following morning attempted to walk, but failed.

July 15th. The tumour had much increased in size, and his nights were extremely restless. The hydrochlorate of morphia was prescribed.

22nd. Several professional friends saw him; all agreed that the case was one of popliteal aneurism, but, from his debilitated state, not one for operation.

23rd. It occurred to me to try the treatment adopted by Mr. Liston, and having procured a tourniquet, I placed it at the upper part of the thigh, maintaining pressure upon the vessel, and continued the morphia.

25th. The pressure of the instrument had caused considerable uneasiness, but no excoriation or sloughing. Increased the hydrochlorate of morphia to three-quarters of a grain at night.

27th. Lessened the pressure of the instrument, as the patient complained of the great uneasiness and restlessness. Repeated the morphia.

30th. The patient appeared in better spirits, and strength improved. Increased the pressure of the instrument.

August 5th. The tumour appears to have become more circumscribed; he suffers less pain in his leg than formerly. Continued the morphia.

15th. The tumour is very hard, there is a slight pulsation, and the bruit is much less distinct than formerly.

25th. The leg was bandaged by a flannel roller from the foot upwards, and a pad of lint placed over the aneurism.

September 1st. No more severe pain; the tumour has considerably decreased; the murmur is still heard, but no pulsation is felt in it or in the course of the artery between the aneurism and the seat of pressure.

10th. This day the press-artère was removed, but the leg bandaged from the toes, and the compress kept over the

aneurism; there was slight œdema of the leg and thigh, but the feet were warm, and sensation was tolerably perfect.

20th. Appeared to be perfectly free from any of the symptoms, and requested to be allowed to take exercise.

July 10th, 1845.—The patient has remained perfectly well since."

### ON AMPUTATION AT THE KNEE.

By JAMES SYME, Esq., Professor of Clinical Surgery in Edinburgh University.

[There are few operations in Surgery which have excited much more discussion, or afforded room for the exercise of more ingenuity, than amputation of the thigh. And although the various modifications which have been introduced have certainly had the effect of restraining the hemorrhage, diminishing the suffering, and promoting union of the wound, the average frequency of deaths is still not less than from 50 to 70 per cent., whilst protrusion of the bone is a frequent sequela. Mr. Syme says that—]

Having seen the circular incision give place to the flap operation, and having witnessed the results of these methods variously modified, in the hands of many surgeons possessing every degree of operative skill, I am at length led to the conclusion, that there is something radically wrong in the principle of the operation. This error I believe to be, dividing the thigh-bone through its shaft instead of the condyles or trochanters.

The most frequent occasion for amputation of the thigh is afforded by disease of the knee-joint. Next to this may be ranked compound fractures of the leg and thigh; and then, tumours growing from the bones of the leg and thigh. Now, in regard to diseases of the knee-joint, it is well ascertained, that the warrant for amputation lies in the bone, and not in the soft parts, which, however much altered through scrofulous degeneration or suppuration, readily admit of restoration to their natural condition, as is clearly shown by what happens after excision of the elbow, or amputation at the ankle-joint. In so far, therefore, as removal of the disease is concerned, it is plain that amputation through the condyles of the thigh-bone would in this case prove sufficient. As to compound fractures of the leg, it will be admitted that if the integuments and muscles admit of the limb being removed at the middle, or lower third of the thigh, they cannot present any obstacle to a few inches more of the bone being preserved, while similar injuries of the thigh obviously require amputation at the trochanters. The same observation will apply to tumours of the bones, those of the tibia and fibula not requiring any more of the thigh-bone to be removed than may be suggested by convenience, and those of the thigh-bone itself demanding the highest practicable point of section. From this analysis it appears that taking merely the morbid condition into account, all the cases admitting of amputation at or below the middle of the thigh-bone, would admit of the operation being performed through the condyles.

In proceeding to consider the relative advantages and disadvantages of amputating through the shaft and condyles of the thigh-bone, it may in the first place be remarked, that this, the largest member of the skeleton, contains the most extensive medullary cavity, and possesses the thickest mass of dense osseous tissue. Dense bone dies more readily than that of a spongy or cancellated structure, and the action of a saw, to say nothing of ruffling the periosteum, must always be apt to cause exfoliation, which by impeding union of the soft parts, delays union, and opposes its perfect completion, by increasing the scope afforded to contraction of the muscles. It would, however, be a narrow view to suppose that the direct effect of local injury is alone concerned in causing death of the bone after amputation; and there can

be no doubt that inflammation of the medullary membrane may co-operate, if it does not sometimes act exclusively in its production. The most conclusive evidence in support of this opinion, is presented by those conical-shaped exfoliations, extending up the interior of the bone, sometimes to the length of several inches, which are occasionally extracted from stumps. One of these in my possession, taken from the humerus, is five inches long. And I believe the thigh-bone would be more fruitful of such exfoliations if amputation through it were not so fatal. But if the medullary membrane be liable to inflammation, suppuration of its texture, and inflammation of the veins cannot fail to be the frequent consequence, especially in hospitals, where, notwithstanding every precaution, certain descriptions of injuries will always be apt to excite phlebitis, and other forms of spreading inflammation. But when the bone is divided through the condyles, nothing more than the epiphysis being concerned, the medullary membrane is not at all disturbed, while the cancellated texture is not liable to exfoliate, either from its proneness to die from injury, or through inflammation of any other texture. It may, therefore, be expected, that the operation would prove less fatal, than when performed in the usual way; and that the stump would be less apt to prove imperfect, through protrusion of the bone. These expectations derive encouragement from the results of amputation at the ankle-joint, to which I was led by similar considerations. Of twelve cases in my own practice, and in nearly as many more in that of other practitioners, who have been induced to adopt it, this operation has not in a single instance been followed by either death of the patient, or exfoliation of the bone; and so far from selecting favourable cases for the purpose, I have repeatedly removed the foot, in circumstances where I should have declined amputating the leg as altogether desperate. But the two following cases more directly support the expediency of an operation which I venture to recommend, as a not less safe and advantageous substitute for amputation through the thigh bone than amputation at the ankle is now found to be for removing the leg below the knee.

[The first case was a young man, 21 years of age, admitted January 29th, 1844. The left knee had occasionally been painful for five years, and for the last twelve months had increased rapidly in size. A large abscess, pointing on each side of the ligamentum patellæ was opened, but the local uneasiness continued to increase, and the general health declined. The operation was thus performed:—]

Having applied a tourniquet, so as to compress the femoral artery where it enters the popliteal space, I made an incision across the knee on a line with the upper edge of the patellæ,—then pushed the knife from one side to the other under the joint,—cut a flap from the calf of the leg,—and finally sawed through the condyles of the thigh-bone, so as to remove the whole articulating surface, which was ulcerated and carious.

On bringing the edges of the wound together, I found the flaps were scarcely sufficiently long, as they required a little stretching to meet, and when stitched appeared more tense than is usually consistent with adhesive union. It was, therefore, with considerable surprise, and no less pleasure, that we saw the healing process proceed without retraction of the covering from the bone. The edges of the skin indeed separated from each other to the extent of nearly two inches, but the subjacent textures remained adherent, until the superficial sore gradually contracted and cicatrized. The recovery, though thus rendered slow, was ultimately completed, and the patient returned to his distant home on the 31st of May.

The result of this case tends to confirm the expectations that had been previously formed with regard to the advantage of amputating through the cancellated extremity instead of the shaft of the thigh-bone, since there could be no

doubt that exfoliation of the surface to any extent, however small, would have been attended with separation of the flaps and projection of the bone.

[The second case was a young woman, 22 years of age, with disease also of the left knee, of nearly three years standing. Frequent application of the moxa and other means having failed of affording relief, and the general health rapidly declining, amputation was resolved on.]

Profiting by former experience, I on this occasion made the anterior semi-lunar incision on a line with the lower edge of the patellæ, and had the integuments retracted before cutting into the joint above this bone. In other respects the operation was conducted as the first one had been, and when the edges of the wound were approximated, they came easily together, presenting a proper degree of fullness, without any straining or tension. The union was nearly completed by the first intention without any local or constitutional disturbance; the flaps, instead of showing any tendency to retraction, rather becoming more full and soft; and the patient presenting the aspect of one who had sustained some trivial injury, rather than undergone a capital operation. On the 14th day she was sitting by the fire, and took the dressings off without any assistance.

This case should, I think, remove any doubt that may have existed as to the safety of amputating at the knee, and consequently as to the expediency of doing so with a view to avert the danger of operating through the shaft of the thigh bone. It is upon this ground that I wish to found the operation, and therefore I have said nothing of some other advantages which might be mentioned,—such as the greater length of stump which, especially in females, must be desirable for the sake of appearance, and may, perhaps, be made available for using a support admitting of flexion at the knee,—or the facility afforded to employ the tourniquet, which causes serious embarrassment in removing the limb at any higher point.

I may remark, that the posterior flap must be made very long, and indeed to the full extent of the fleshy part of the *gastrocnemii* muscles,—care being taken, however, to avoid preserving more than a moderate portion in regard to thickness.—*London and Edinburgh Monthly Journal of Medical Science*, May, 1845, p. 537.

#### ON THE PATHOLOGY OF THE EAR.

By JOHN TOYNBEE, Esq., F.R.S., Surgeon to St. George's and St. James's Dispensary.

[In a former paper, published by Mr. Toynbee, in the 24th vol. of the *Medico-Chirurgical Transactions*, (1841,) he gave descriptions of several dissections of the human ear, "as evidence of the fact that the lining membrane of the tympanic cavity is frequently in a diseased condition." In another paper, in the 26th vol. of these *Transactions*, he says:]

Subsequent dissections, and a careful investigation of numerous cases of deafness in living subjects, have led me to the conclusion that the most prevalent cause of deafness is chronic inflammation of the mucous membrane which lines the tympanic cavity; and that by far the greater majority of cases commonly called nervous deafness ought more properly to be attributed to this cause. This opinion derives support from an observation made to me by Mr. Swan, that in the whole course of his multiplied aural dissections he has not encountered one single instance of disease in the internal ear; an observation which embodies the result of repeated examinations to which I have myself subjected that part of the organ.

At the same time that I advance this opinion as an inference fairly deducible from more than a hundred dissections, I am far from denying the necessity of more extended researches previous to its validity being admitted.

It is worthy of observation, that though some of the persons from whom the specimens were taken, were known to have been afflicted with deafness during life, and others died of diseases which produced affections of the ear, yet the greater number, while living, were not supposed to be deaf.

This frequent occurrence of pathological conditions in the organs of persons not ordinarily esteemed to be deaf during life, loses some portion of its singularity when more closely investigated. Slight defects of hearing are so common as scarcely to excite even a passing observation, and more serious cases, from the very frequency of the disease,—perhaps the most common to which man is subject,—make but a slight impression. It may therefore be presumed that the ear is often in a pathological condition, though disease may not have proceeded so far as to produce such an extent of functional derangement as would cause serious inconvenience to the person affected, or reveal his infirmity to others.

The tympanic cavity is lined throughout by a fine membrane, forming externally the interior layer of the *membrana tympani*; from which it can sometimes be detached without much difficulty. In this situation it also serves as a partial investment to the *chorda tympani* nerve, and as a tubular sheath to the tendon of the *tensor tympani* muscle. Internally it covers the surface of the promontory and the *membrana propria* of the *fenestra rotunda*; passes on to the margin of the *fenestra ovalis*, where it is reflected on the surface of the stapes; and lastly, surrounds the tendon of the *stapedius* muscle, and envelopes the *ossicula auditus*, with their connecting ligaments.

In the healthy state, this membrane is so remarkably thin and transparent, that its presence is not easily detected. It is composed of extremely fine and delicate fibres, and in structure exhibits strong analogy to the serous membranes. Over its surface extends a layer of very minute epithelial cells: these again are covered by others, which are flat, broad, and elongated, terminating in a row of well-developed and firm cilia. The supply of blood-vessels is abundant; but they are so minute, and so rarely distended with blood, that, in the healthy state of the membrane, they are imperceptible. In disease, however, these vessels are very much dilated and surcharged with blood. In young persons the membrane is highly vascular, and when successfully injected, appears pervaded by plexiform ramifications.

Beneath the mucous membrane lie the ramifications of the tympanic nerve from the *glosso-pharyngeal*. In addition to the branches of this nerve, which have been described by Mr. Swan and Professor Arnold, I have been enabled, by the aid of the microscope, to detect numerous filaments, distributed to every part of the membranous lining of the internal wall of the tympanum; and their presence seems to offer a natural solution of the cause of the very acute pain which is experienced when there is inflammation of this structure.

In a healthy state, a small quantity only of mucus covers the surface of the tympanic membrane: the constant motion of the cilia, already mentioned, tends no doubt to prevent its accumulation.

Inflammation of the mucous membrane of the tympanic cavity gives rise to various pathological conditions, which it seems to me may be divided into three stages.

In the first stage the membrane retains its natural delicacy of structure, though its blood-vessels are considerably enlarged and contorted, and blood is effused into its substance, or more frequently at its attached surface. Blood has also been found between the membrane and the *membrana propria* of the *fenestra rotunda*, and in very acute cases lymph is effused over its free surface. Instances of the presence of these conditions will be found detailed in the appended account of dissections.

The second stage is characterized by a variety of very important pathological phenomena; the principal of which are the following:—

1st. A very considerable thickening of the substance of the membrane, which is often pulpy and flocculent. In this state the tympanic plexus of nerves becomes concealed; the base and crura of the stapes are frequently entirely embedded in it; while the fenestra rotunda appears only like a superficial depression in the swollen membrane. Occasionally there is a collection of mucus.

2nd. Concretions of various kinds are visible on the surface of the thickened membrane. In some cases these have the consistence of cheese, and are analogous to tuberculous matter; in others they are fibro-calcareous, and exceedingly hard.

3rd. But by far the most frequent and peculiar characteristic of this second stage of the disease, is the formation of membranous bands between various parts of the tympanic cavity. These bands are at times so numerous as to occupy nearly the entire cavity. They are found connecting the inner surface of the membrana tympani to the internal wall of the tympanum; to the stapes; and to the incus. They have also been detected between the malleus and the promontory; as well as between the incus, the walls of the tympanum, and the sheath of the tensor tympani muscle: and they so connect various parts of the circumference of the fenestra rotunda, as to form a network over the membrana propria. But the place where these adhesions are most frequently visible, is between the crura of the stapes and the adjoining walls of the tympanic cavity; this, for example, was the case in twenty-four instances out of a hundred and twenty dissections—being a fifth of the number. In one dissection, the bands of adhesion were five in number: and in other instances they were so strong, that, in removing the stapes, the mucous membrane was torn from the surface of the promontory. Sometimes, so broad and expanded have been these adhesive bands, as to have assumed the appearance of a membranous veil. They have also been known to contain blood and scrofulous matter. In some examples the surface of the promontory is rough, and in two instances the membrane attached to the base of the stapes was ossified, and the ankylosis of the latter to the fenestra ovalis was complete.

It must appear obviously impossible, that many of the remarkable phenomena which have just been pointed out can be present, without the co-existence of functional derangement, more or less serious, in the organ of hearing. The thickening of the mucous membrane, and deposition of mucus, must necessarily interfere with the course of sonorous vibrations towards the membrane of the fenestra rotunda, and hinder the free action of the stapes.

The bands of adhesion connecting the stapes with the walls of the tympanum, cannot do otherwise than impede the natural movements of the former, which has very frequently been found so firmly attached to the fenestra ovalis, as to require considerable pressure with the scalpel to disengage it. Morgagni states, that he found the cavity of the tympanum intersected by numerous membranes, which impeded the movements of the ossicula; and it appears highly probable that these bands of adhesion produce irregular movements in the ossicula. I am inclined to ascribe deafness, and many of the distressing symptoms that often accompany it, as noises like the rushing of waters, &c., to the continued pressure exerted on the contents of the labyrinth by the stapes being drawn inwards, as a consequence of the formation and subsequent contraction of the adhesions. In this opinion I have been strengthened by the examination of living persons, having frequently observed, that where the membrana tympani has been removed by disease, or where the contents of the vestibule have not received any impression through the stapes, (as in the in-

stance of the latter bone being ankylosed,) the patients have heard better than those where satisfactory evidence existed, that the disease consisted in the thickened and adherent state of the membrane under consideration.

Another effect resulting from the pathological conditions apparent in this stage of the disease, seems to be deserving of very attentive consideration. From the interesting researches of Dr. Wollaston, and the more recent admirable and satisfactory experiments of Professor Muller on the physiology of hearing, it would appear that too high a state of tension of the membrana tympani is an obstacle to the transmission of the sonorous vibrations to the internal ear. In several of the dissections, it will be observed that the membrana tympani was bound to various parts of the tympanic cavity by firm bands of adhesion; that in others, the tendon of the muscle was surrounded by thick membrane, while occasionally both it and the substance of the tensor tympani muscle were atrophied. All these changes must most certainly exert an injurious influence upon the membrana tympani; and from them doubtless arise many of the phenomena observable in deafness.

In the third stage of inflammation of the tympanic mucous membrane, it becomes ulcerated, the membrana tympani is destroyed, and the tensor tympani muscle atrophied. The ossicula auditus are diseased, and ultimately discharged from the ear, and the disease not unfrequently communicates itself to the tympanic walls, affecting also the brain and other important organs. Of this class of diseases I am about to treat at length in a separate communication.

[In 120 dissections made by Mr. Toynbee, there were 20 ears in the first stage of inflammation of the tympanic cavity, 65 in the second stage, 6 in the third stage, and 29 in a healthy state.]—*Medico-Chirurgical Transactions*, vol. 26, p. 298.

*On the Treatment of Deafness by Puncturing the Membrana Tympani.*—Sir Astley Cooper wrote a memoir on this subject in the "Philosophical Transactions," and shewed that the cases likely to be relieved by the practice were those in which the Eustachian tubes were permanently closed, or when blood had been extravasated behind the membrane. To those cases other pathologists have added "a morbidly thickened and cartilaginous condition of the membrana tympani" itself. In the last number of the *Northern Journal*, we find an interesting communication on the results of the operation by Dr. Mercer. This gentleman has performed it in several cases. He gives a table, which includes fifteen. Of these, six were performed for chronic thickening of the membrane, and the remaining nine for obstruction of the Eustachian tube. One case alone, and that of the latter affection, succeeded in the restoration of hearing. The operator then agrees with Itard in saying, that "nothing is more rare than the cure of deafness by perforation of the membrana tympani." He then details at length the history of an instance of idiopathic hæmorrhage into the cavity of the tympanum. In this case, deafness, which was complete, was removed by the operation. As the example is an instructive one, we shall allow the author to describe the local appearances, the mode of operating, and the instrument:—

"The membrana tympani, instead of its normal, transparent, gray appearance, had a dull brown colour, and was slightly congested at the margin; the vertical line, indicating the handle of the malleus, was lost in the surrounding colour, and the membrane, instead of presenting its concave appearance, seemed pushed outwards into the meatus. On touching it with a probe it was almost insensible, and pressure against it produced an elastic pitting. The head was carefully supported, with the left ear turned up, and the auricle drawn towards the vertex. The speculum being introduced as far as the second curve of the meatus,

and then expanded, with a clear and steady light, the anterior and inferior part of the membrane was perforated, and a small portion of it removed by an instrument, which consists of a fine but strong steel needle, two inches and a half long, and the handle of an octagonal form, one and a half inch in length. The cutting or drill head is spear-shaped, one-sixth of an inch long, and one-eighth in breadth at the shoulders, where the edges are turned over. The point and edges are very sharp. Each of these edges is hook-shaped, one turned forwards and the other backwards; and when thus viewed longitudinally at their broadest part, they resemble the italic letter *f*. On being brought in contact with the membrana tympani, the handle is made to rotate between the thumb and fore-finger, and this being communicated to the cutting point, it perforates the membrane similar to a drill, at the same time that the averted edges are causing a considerable loss in its substance."

The subsequent treatment consisted chiefly of injections of warm water, and inflating the cavity with air, through the Eustachian tube. Dr. Mercer observed that the average time for reproduction of the membrane, when allowed to take place, was about four days.—*Lancet*, Nov. 23, 1844, p. 258.

## CHEMISTRY, MATERIA MEDICA AND PHARMACY.

### ON A NEW METHOD OF PREPARING MEDICATED TINCTURES.

By HENRY BURTON, M.D., Physician of St. Thomas's Hospital.

(Continued from p. 164.)

**REMARKS.**—*Tinctura Aloes*.—The dissolution of good socotorine aloë, coarsely powdered, and suspended in spirit of the strength directed to be used in making the official tincture of aloë, proceeds uninterruptedly without agitation, and, when perfected, very little residue will remain in the bag. The resulting tincture will obtain its maximum density in forty-eight hours, and no change in its specific gravity will be occasioned by subsequently agitating the materials together in direct contact. Aloë only is thus exhausted by suspension; but if, instead of macerating aloë alone in a bag, it is macerated in a mixture with the extractum glycyrrhizæ, another component of the tinctura aloes, then the tincture will not attain its maximum density in forty-eight hours, and on opening the bag after this interval, a considerable bulk of feculent residue will be exposed, mingled with portions of the original liquorice, which cannot be entirely exhausted until the materials have been agitated together in direct contact. By subsequent agitation the specific gravity of the official tincture made by suspension in forty-eight hours was raised three units in the third place of decimals, or from 0.996 to 0.999. The difference, however, might be diminished by protracting the maceration by suspension a few days, and by draining the bag of solids, so as to favour the circulation of the tincture through them, once daily; but as the source of the difference is in the loss of liquorice, and not of aloë, the medicinal virtues of the preparation will not be seriously affected by it, and the deficiency of saccharine taste might be compensated for by the use of a rather larger quantity of liquorice than directed in the London Pharmacopœia of 1836. The plan suggested by Dr. Duncan, in reference to exhausting substances of different degrees of solubility used in making compound tinctures successively in spirit, does not seem to be preferable in this instance to the ordinary plan of macerating all the components together, and failed in one trial to increase the specific gravity of the tincture of aloë.

*Tinctura Aloes Composita*.—Rectified spirit is a very good solvent of aloë, and is used in making its compound

tincture under the form of tincture of myrrha. The dissolution of coarsely powdered aloë proceeds without cessation to its completion, and requires no assistance from shaking. The resulting tincture attains its maximum density on the second or third day of suspension, and if the aloë was of good quality, and no crocus used, very little residue will remain in the bag; the tincture may be drained from the residue, for the most part, and little or no additional quantity would be obtained by subsequent compression, if prepared without crocus. In preparing the official compound tincture of aloë, crocus is used, but where none is used, the specific gravity is lower than that of the official tincture, and the hard extract yielded by a fluid drachm consisted only of the resin of myrrha and aloë.

*Tinctura Balsami Tolutani*.—Balsam of Tolu is very soluble in spiritus rectificatus, and its tincture is best prepared by suspension in a bag, by means of which its agglutination to the bottom of the macerating vessel, and which occurs in the ordinary process, and the necessity of filtering after maceration, are obviated. The resulting tincture was quite clear at 62°, but became turbid when cooled down below 45°: its density was precisely equal to a similar tincture made by direct contact and agitation, and only a very small quantity of residue was left in the bag, from which almost all the tincture was drained.

*Tinctura Calumbæ*.—Spiritus tenuior is used in a large proportion to the calumba in making its tincture, and effectually exhausts it in less than forty-eight hours by mediate contact and suspension, unaided by agitation. The resulting tincture is obtained clear, and precisely resembles a similar one made *cateris paribus*, by agitation with direct contact, and may be, for the most part, drained from the fibro-amylaceous residue of the calumba, without incurring waste; but the expressed tincture is rather stronger than that which is drained from the bag.

*Tinctura Assaætida*.—A large portion of the resin and oil of assaætida is quickly dissolved by spiritus rectificatus in mediate contact, but its gummy component towards the close of the maceration forms an insoluble residue, which retards the exhaustion of the last portions of it, in the same way as the feculent residue obstructs the dissolution of the last portions of liquorice used in making the tincture of aloë. The perfect exhaustion of assaætida by spiritus rectificatus cannot be accomplished in two or three days by either of the two processes under consideration, and in seven days the tincture made by direct contact and agitation was a little stronger than that made by mediate contact; but in equal periods of time the tincture made by the one possessed very nearly the same specific gravity as that made by the other process, and by protracting the maceration by suspension to seven days, as well as taking the precaution to drain and reimmerge the bag daily, the tinctures will be found closely to resemble one another in all respects. No difficulty attends on the packing: the bulk of the assaætida is small in proportion to its solvent, and very little tincture adheres to the bag of residue after the final draining. The assaætida used in my experiments was soft, and cut into small fragments; but for the purpose of favouring the circulation of the tincture through it, it should be reduced to a coarse powder in a cold mortar.

*Tinctura Cascarilla*.—Spiritus tenuior quickly acts on the cascarilla suspended in it, and the resulting tincture, at the end of two days, will precisely resemble one made by the ordinary processes, *cateris paribus*, in ten days. The bark should be reduced to a coarse powder, and, as its proportional bulk is small, it may be enclosed loosely in a bag, and will be effectually covered by the spirit. The resinous nature of cascarilla favours the circulation of the resulting tincture, and no extraordinary attention is required to ensure the success of the process. It is scarcely necessary to raise the bag until the end of the maceration, when a large proportion of the tincture may be obtained



without the aid of pressure, by draining, and quite clear.

*Tinctura Cinchona Pallida.*—Cinchona is rather bulky, but when used in coarse powder, it may be packed in a bag sufficiently small to admit of being effectually covered by the proportional quantity of spirit in which it is to be macerated. The resulting tincture attains its maximum density in forty-eight or seventy-two hours, and will then resemble in all its sensible qualities a similar tincture made with materials of equal goodness by direct contact and agitation in ten days. The tincture is quite clear, and about one-sixth of the original quantity of spirit is retained by the residue after draining, which, for the most part, may be expressed; and the bark loses by maceration about twenty-five per centum of its weight, consisting of water and extract soluble in spiritus tenuior.

*Tinctura Conii.*—This tincture is made with great ease by suspension, and attains its maximum density in two days. At the end of this time it will resemble a similar tincture made with materials of equal goodness in all its sensible qualities, and be perfectly clear. The herbaceous structure of conium is favourable to its compression within the requisite compass, and its bulk may be sufficiently reduced in a bag without rendering it impervious to the proportional quantity of spirit in which it is to be macerated. The bag should be drained once or twice during the process, and after the final draining a quantity of tincture will continue to adhere to the residue until expressed. This step may be taken immediately after the draining has ceased, and the economy of time as well as spirit which is ensured by preparing the conium in its dry state, for the subsequent expression of its tincture, strongly recommends this process in preference to the ordinary plan.

*Tinctura Digitalis.*—Spiritus tenuior acts very readily on, and its proportional quantity is amply sufficient to cover, digitalis under moderate pressure, suspended in it. The resulting tincture attains its maximum density in two days, and, if prepared with the mature leaf, thoroughly dried, will have a specific gravity of 0.934; but if the immature leaf is substituted, and its dessication neglected, the specific gravity of the tincture made with it will be much higher, and has sometimes reached 0.972. But the specific gravity of the best kind of this tincture never much exceeds 0.944; and when above 0.958, its medicinal virtues, according to my observation of its effects at St. Thomas's Hospital, and which were noticed in the *Medical Gazette* for June 1841, cannot be trusted. The bag process is extremely well adapted for making this tincture, and surpasses the ordinary method in most respects, but more especially as regards the economy of spirit, as well as of the attention required to conduct it.

*Tinctura Guaiaci.*—Guaiacum reduced to a coarse powder, or small fragments, and suspended in a bag, dissolves in spiritus rectificatus with almost the same rapidity as sugar melts in water. The resulting tincture attains its maximum density in one day or thirty hours, and the bag retains, after being drained, only a very small proportion of tincture, besides the usual impurities of the drug. Guaiacum is rather bulky compared with the proportional quantity of spirit in which it is suspended; but it is so very soluble, that the full bag may be at first suspended half above the spirit without prejudice to the process, but as soon as the contents of the lower half have given place for the most part to those of its upper half, the whole bag should be lowered into the solvent. The same remarks apply to the preparation of the officinal tinctura guaiaci composita, and in making both tinctures, the inconvenience which arises from the adhesion of the guaiacum to the bottom of the macerating vessel in the ordinary method, is obviated by the intervention of the bag.

*Tinctura Hyoscyami.*—Notwithstanding the bulky nature of hyoscyamus, a very moderate degree of pressure

will suffice to contract its bulk within the requisite limits, and it may be effectually macerated in the proportional quantity of spirit. The resulting tincture attains its maximum density on the third day, and resembles in all respects a similar tincture macerated eight days by the ordinary process; but as a considerable portion of the tincture is retained by the hyoscyamus after draining, moderate pressure subsequently applied to the bag will be required to separate it. Its separation may be effected with little or no comparative waste of tincture; and for reasons similar to those given in reference to the tinctura lupuli, this part of the bag process far excels in its economy that of the ordinary method.

*Tinctura Jalape.*—Jalap should be macerated in the form of a coarse powder, and not be finely pulverized; it is rather bulky, but with the ordinary precautions before frequently alluded to, it may be effectually covered by the proportional quantity of spirit in which it is to be suspended. A considerable proportion of pulpy residue, intermingled with a little jalap, remains in the bag towards the close of the maceration, and, for the purpose of aiding the circulation of the solvent through it, and of exhausting the jalap, the bag should be raised once daily and drained. About one-seventh of the original quantity of spirit is retained by the bag of residue after the final draining, and the resulting tincture attains its maximum density on the third or fourth day, when it will be found to resemble in all respects a similar tincture made by the ordinary mode, with much more trouble, in fourteen days.

*Tinctura Kino.*—Kino is very soluble in spiritus rectificatus, and its tincture is made by the bag process with the greatest facility in twenty-four hours, at the end of which time it will have acquired its maximum specific gravity, and resemble, in all respects, a tincture made, *ceteris paribus*, by the ordinary method. A small proportion of residue, insoluble in spirit, remains in the bag, varying, however, with the kind of kino employed, but which never exists in quantity sufficient to interfere with the action of the solvent, nor to retain the tincture by adhesion, and seldom varies more than between  $\frac{1}{4}$  to  $\frac{7}{16}$  per centum of kino. In the ordinary process of making this tincture, the kino, after being softened by the spirit, adheres to the bottom of the macerating vessel, and from which it is best detached by violent agitation; but this additional labour is obviated by the intervention of the bag; and simple draining only, at the termination of the maceration, will separate almost all the tincture from the residue.

(To be Continued.)

## FORENSIC MEDICINE.

### DR. TAYLOR'S REPORT ON THE PROGRESS OF TOXICOLOGY.

(Continued from page 109.)

6. So large a proportion as a 4000th, probably even a considerably larger proportion, will be insufficient, if the salts in solution be in a great measure muriates. It is right to add, that in all cases, even though the composition of the water seems to bring it within the conditions of safety now stated, a chemical examination should be made of it after it has been running for a few days through the pipes. For it is not improbable that other circumstances, besides those hitherto ascertained, may regulate the preventive influence of the neutral salts. (It may be here suggested whether organic matter in water, which has a strong tendency to combine with oxide of lead, may not have some influence.) 8. When the water is judged to be of a kind which is likely to attack lead pipes, or when it actually flows through them, impregnated with lead, a remedy may be found either in leaving the pipes full of the water, and at rest for three or four months, or by substituting temporarily for the water a weak solution of phosphate of soda, in the proportion of about a 25,000th part.

I have found that sulphate of lime, when it forms about the proportion of a 5000th part, also acts as a good preservative. This salt, as plaster of Paris, is easily procurable in most localities.

A few years since, Dr. Clark of Aberdeen suggested a very ingenious chemical process for depriving common water of two-thirds of its solid saline matter, thus rendering it more soft and better adapted for many purposes to which it cannot now be applied. Two-thirds of the saline matter, contained in the Thames river-water, consists of carbonate of lime held dissolved by carbonic acid; the remaining third is chiefly composed of sulphate of lime. Dr. Clark proposed to add caustic lime to water, in order to remove the free carbonic acid, and thereby to precipitate it, and the carbonate of lime held dissolved by it, entirely. The experiment perfectly succeeds when a few ounces of lime-water are added to a gallon of river-water;—any surplus lime is got rid of by exposure to air. When the precipitation has occurred, (occasionally not for some hours, or even a day,) the clear water may be poured off, and it will be found much softer. Having produced a quantity of this water, I was desirous of seeing how far, by the loss of so much saline matter, it would now be affected by contact with lead. Many experiments were performed on a small scale, and it was found that the preservative properties of the water were not at all diminished by the separation of the carbonate of lime. This seems to show that the sulphate of lime (the residuary salt) is mainly concerned in counteracting this chemical action between water and lead.

Mr. Scanlan has lately found that recently distilled water, condensed in a leaden pipe, holds dissolved a quantity of carbonate of lead, being turned brown by sulphuretted hydrogen. This is important in analysis, whether chemical or medico-legal. (*Pharm. Journal*, August, 1844.)

The most convenient plan, in Dr. Christison's opinion, for detecting lead in water, a duty which may occasionally fall on a general practitioner, is,—1. To examine what separates on exposure to the air, by dissolving it in warm acetic acid, and testing the solution with sulphuretted hydrogen, iodide of potassium and bichromate of potash. 2. If this process fail,—To concentrate the water to an eighth part, and again test any insoluble matter which separates; and lastly, failing this procedure also, to evaporate the water to dryness, subject the residue along with charcoal to a red heat, act on what remains with warm diluted nitric acid, and test the solution when filtered and neutralized by an alkali. It may admit of question, whether in the event of lead being indicated in the last way only, the very minute quantity which would then be present, can prove detrimental.

We have assigned this space to one of the most valuable monographs on lead-poisoning which has appeared within the last few years. It is a subject of daily interest to the medical practitioner; and there are few cases in which chemistry has been brought to bear on medical police with more satisfactory results than in this. The cause of the mischief and the remedy are clearly pointed out. There is no doubt, that the dangerous effects produced by the contact of water with lead was well known to the Romans,—that this was the real cause of their abandoning its use, and, in the absence of iron,—resorting to those expensive structures of masonry which are now seen stretching in gigantic piles, and to enormous distances, over the Campagna di Roma. One of their leaden pipes has been found, and is now preserved in the Museum of Arles, with the name of the Roman plumber at every juncture. It is much to be regretted that there is even in our own day, among architects and builders, a degree of ignorance on this subject as great as that which existed two thousand years ago, and that notwithstanding the discoveries of modern science, serious accidents are frequently occurring in families from the want of the most simple precautions in the use of this metal.

*Colica pictorum.* In a paper read before the Academy of Sciences in November 1843, M. Ruolz proposed that the use of white-lead as a pigment should be abandoned, and that the white oxide of antimony should be substituted for it. Subsequently M. Rousseau suggested a process for the economical manufacture of the white oxide of antimony. It is not improbable that such a change might be attended with the benefit proposed—of extirpating colica pictorum and those disorders which affect individuals employed in white-lead works; but it is questionable how far the finely-divided oxide of antimony could be received into the system with impunity. Further, in respect to the arts, no substance has yet been found which has possessed, as a pigment, the degree of opacity which is known to belong to the carbonate of lead.

*Copper.* In July, 1843, a communication was made to the Academy of Sciences by M.M. Danger and Flandin, on a new process for detecting copper, by the incineration of organic matter in cases of poisoning. By this means they have been enabled to detect the metal when it formed only the 100,000th part of the organic compound. (*Annales d'Hygiène*, t. xxx, p. 449.) The organic matter is simply dried and carbonized by heating it in a porcelain capsule, with one third of its weight of strong sulphuric acid. After being heated to dull redness, the charcoal is reduced to powder, drenched with sulphuric acid, again heated, but not to dryness, and then digested in water. By this means a clear solution is obtained, in which sulphate of copper is easily detected by the usual tests. The same process is applicable, according to the authors, to the detection of the compounds of lead, silver, bismuth, tin and gold, with the exception that, in the case of lead, muriatic, and of gold and tin, nitro-muriatic should be substituted for sulphuric acid, in acting upon the incinerated ashes. By direct analysis and physiological experiments, the authors have arrived at the conclusion, that neither lead nor copper forms any constituent part of the healthy animal body. In animals to which they had exhibited a salt of copper in divided doses, they found that the metal was not excreted with the urine, as in the case of arsenic and antimony; but with the bronchial secretion, in which they detected it by analysis. Mercury appears to take the same course in its exit from the body, since it has been found in the saliva of persons who have been taking mercurial pills. The compounds of silver and gold were observed to pass off both by the pulmonary and urinary excretions; but while the chloride of gold passed more readily by the kidneys than the lungs, it was exactly the reverse with the chloride of silver. After death from poisoning by a salt of copper, that portion of the metal which has been absorbed can be detected only in the intestines and in the liver; and about two ounces of this last-mentioned viscous were found to be sufficient for obtaining satisfactory medico-legal proof of the presence of the poison.

The question whether copper and lead constitute part of the healthy animal organs, in cases where neither of these substances can have been taken in a poisonous form, is a point which does not appear to be decidedly cleared up; although the balance of opinion is in favour of the results obtained by M.M. Danger and Flandin, namely, that they neither enter into the composition of the body nor of the food of man; and that where they are said to have been detected, their presence must be ascribed to their adventitious introduction during the analysis. The question is of some interest in toxicology, for it has been already raised and thrown out as an objection to medical evidence in a late trial, already adverted to. (*Ante*, p. 538.)

In August, 1843, M. Barse communicated to the Academy the results of some analyses made on the bodies of two subjects taken from the hospitals of Paris. They had died from ordinary disease. M. Barse states that he detected copper and lead in both subjects. The copper was obtained in the metallic state and identified by all its characters; the lead was not obtained as a metal, but its presence was indicated by the usual tests. These metals may be detected in the liver, according to M. Barse, 1, by Orfila's process of carbonization; 2, by simple carbonization, incineration of the ash, and afterwards digesting it in nitro-muriatic acid; 3, in carbonizing by sulphuric acid and incinerating the charcoal, for the mere carbonizing action of sulphuric acid will not, of itself, suffice to allow of the detection of these metals.

In September, 1843, M. Rossignon of Lyons addressed a note to the Academy of Sciences on copper, as it exists in the organic tissues of many vegetables and animals. M. Rossignon states that he detected copper in all his experiments on the human body: he found it in the blood and muscular fibre of man, in the tissues of many domestic animals (the dog), and in the common vegetables used as food. The gelatin used as soup at the hospital of St. Louis yielded per cent. 0.03 of pure copper. Common sorrel gave 2 per cent. of neutral oxalate of copper; chocolate from 0.07 to 0.5 per cent. The bread generally used in Paris gave, in 1000 parts of incinerated residue, from 0.05 to 0.08 of copper (fraudulently introduced as sulphate!) Coffee, chicory, madder, and sugar yielded traces of the metal, in the latter case mixed with lead. Barley-sugar contains copper; and in the sugar of starch it forms 4 per cent. by weight, of the carbonized residue! M. Rossignon further states, that by calcining the substances in close vessels, he was enabled to detect appreciable traces of the metal



in human semen, in the excrement of the fowl, in the egg, and in the eye of the ox!

It appears difficult to reconcile these results with those obtained by MM. Danger and Flandin and others. It is intimated that the failure of these experimentalists in detecting copper was owing to their not having incinerated the carbon derived from the action of sulphuric acid on organic matter; but this does not sufficiently account for the difference, since, by pursuing the same process with the pulmonary exhalations of animals poisoned with its salts, they detected the metal readily, although here it was only found in traces. Besides, when we consider the very positive manner in which it was for a long time stated that arsenic was a normal constituent of the human body, by a higher authority than either M. Barre or M. Rossignon, and that this statement has been since entirely disproved before a committee of the Academy, we may well hesitate to assent to the assertion that copper is a natural constituent of the body. These chemical mistakes are very liable to occur in researches conducted by individuals; and it is often only by the presence of several engaged in watching the process, that the real source of fallacy is detected. *Quod volumus, faciliè credimus.*

**Verdigris.** One case of poisoning by this substance is related in the 'Journal des Conn. Med. Chir.,' December, 1843. It is reported in the 'Edinburgh Medical and Surgical Journal' for July, 1844. A woman *ætat.* 28, swallowed a large dose of verdigris. She was soon afterwards seized with great anxiety, vomiting, acute pains, and swelling of the abdomen, sensation of burning heat in the throat, coldness, and severe cramp in the extremities, a labouring pulse, swelling of the face, with the eyes sparkling. An emetic brought away some half-digested food, without any traces of poison. The next morning there was painful deglutition, swelling of the throat, the abdomen tympanitic and painful on the least pressure, the countenance heavy, the face flushed, and the pulse oppressed. About two pounds of a distinctly-greenish fluid, with some blood were ejected. The symptoms became aggravated; the face and eyelids swollen and red, the eyes prominent, the abdomen flattened but sensible, the rectum so irritable and painful that enemata could not be administered. On the second day there was a tendency to coma, the face was pale, the lips swollen, the gums ulcerated, and there was an abundant discharge of viscid saliva. A copious stool was passed—the first since the poisoning; and acetate of copper was detected in it in pretty large quantity. There were several spasmodic fits. On the third day some viscid glairy matter, of a greenish colour and tinged with blood, was vomited, and the spasms continued. On the fourth day epistaxis, with general cramps came on, and the urine and fæces were suppressed. There was coldness of the surface, with convulsions. After the lapse of about a week she still had vomitings of greenish glairy matters, with uneasiness in the abdomen; but from this date she gradually recovered.

This case is interesting from the course of the symptoms being accurately noted; and it is worthy of remark, that icterus, which some have regarded as a symptom of cupreous poisoning, was at no time present. It is unfortunate that the quantity swallowed was not known.

**Subchloride of copper.** Among the very few cases of poisoning reported in Henke's *Zeitschrift der S. A.* for 1843-4, is the following. (No. 1, 1844.) A boy between two and three years of age swallowed a part of a small cake of green water-colour, such as is sold in the colour-boxes for children. Very soon afterwards he was attacked with vomiting and coldness of the extremities. Notwithstanding the exhibition of an antimonial emetic, the symptoms continued to become aggravated, and the child died. On opening the body, there was nothing to indicate specially the action of an irritant poison, except a slight congestion in the cerebral vessels. The child, it appears, had swallowed about a scruple of the green colour, which, on analysis, was proved to be the common subchloride of copper. It was remarkable that there was not the least sign of irritation or inflammation in the alimentary canal. Death was ascribed by the examiners to the exhaustion resulting from violent vomiting, and the congestion of blood in the brain thereby produced.

This case, the details of which are rather imperfectly given, shows that the subchloride of copper is a very active poison, and that it may cause death without leaving any signs of irritation in the alimentary canal. It is to be remembered that it is this compound of copper which is often formed in culinary utensils, and

which thereby gives rise to accidents when any food containing salt has been prepared in the vessel without proper precautions.

**Arsenite of copper.** *Sheele's green.* The dangerous practice of using this powerful poison to give a green colour to confectionary is very prevalent, and accidents are continually arising from this cause. An instance has just been communicated to me, of recent occurrence, in which three lives have nearly been sacrificed, at a school near Manchester, owing to the parties having eaten some ornamented confectionary, which owed its green colour to arsenite of copper. They suffered from violent vomiting, severe pains in the stomach and bowels, and spasms in the extremities. Three animals which ate of the vomited matters were attacked by similar symptoms. It is unfortunate that in this country there is no medical police established by law to restrict the free sale and use of this and other poisons. In this respect the English is widely distinguished from the continental practice. In France and Germany the lives of individuals are closely protected against those accidents which are liable to occur through the ignorance or criminal neglect of others. Here poison is allowed to be sold like sugar or starch; and every child is assumed by the law to be capable of protecting himself! If death ensue from such a course, we find that a coroner's inquisition and a trial for manslaughter take place, to investigate an event which, under simple medical-police regulations, would not have occurred. More than a hundred lives are yearly sacrificed in England and Wales by the unrestricted manner in which arsenic is sold. The sale of alcohol is rigorously confined by fiscal regulations; and it is impossible to say why some strong restrictions should not be placed on the sale of poisons that can seldom be required by the public for any innocent or lawful purpose. If the sale were prohibited by a penalty, except under the order of a regular medical practitioner, it is quite certain that many lives would yearly be saved, and the painful proceedings connected with these criminal trials would be spared to the country. To those who are inclined to adopt the "*argumentum ad crumenam*" it may be observed, that the law-charges incurred for such inquisitions and trials, would more than pay for the establishment of a national board of medical police.

Arsenite of copper is not the only poison which gives a green colour to confectionary. Chromate of lead, mixed with indigo has also been employed for the purpose. It has been said that there is danger in the use of these compounds for tinting paper, should the paper be subsequently used for wrapping up articles of food. The reader will find in the *Annales d'Hygiène* (1843, p. 358), a full account of the composition of these mineral colours, with the police regulation adopted in France on the subject. The green and bright blue papers are condemned as the most dangerous; but, unless the colour be only roughly adherent to the surface, it is not probable that any article of food enclosed in the paper would acquire a poisonous impregnation.

**Electrotyped copper utensils.** Mr. Warrington has lately shown that copper vessels, saucepans, taps, and other articles, which have been covered with a surface of silver by the electrotype process, are liable to be acted on by weak acids, such as lemon-juice and vinegar, when such acids are allowed to remain in contact with them for a short time. It appears that the metallic silver with which they are covered is porous, like a sponge—a fact made evident on slight examination—and in this way the acid liquid permeates the silver, and reaches the surface of the copper. A kind of galvanic circuit is thereby established, which increases the chemical action; so that such vessels, while giving apparent security in their use, are actually rendered more dangerous. The presence of copper in acid liquids kept in the electrotyped vessels, was clearly proved by the usual tests for that metal. The same effects might occur where the liquid contained common salt dissolved.

**Antimony.** It would appear from the observations of the late Mr. Goodlad (Provincial Journal) of Manchester, and Mr. Noble, that tartarized antimony, even in small doses, is liable to act as a poison on the young. Mr. Wilton records four cases in which prostration and collapse followed the administration of ordinary doses of tartar-emetic to young children. Two of them were fatal. It should therefore be administered with great caution. A case, showing the importance of this remark in a medico-legal view, will be found in the *Medical Gazette*, vol. xvi, p. 520.

**Bichromate of potash.** Well-observed cases of poisoning by this compound, which is now extensively used in the arts, are rare; and, therefore, the details of the following case, communicated to the '*Medical Gazette*,' (vol. xxxiii, p. 735,) by Mr. Wil-

son of Leeds, are of great practical interest. A man, *ætat.* 64, was found dead in his bed, twelve hours after he had gone to rest. He had been heard to snore loudly during the night, but this had occasioned no alarm to his relatives. When discovered he was lying on his left side, his lower extremities being a little drawn up to his body: his countenance was pale, placid, and composed; eyes and mouth closed, pupils dilated, no discharge from any of the outlets of the body, no marks of vomiting or diarrhoea, nor any stain upon his hands or person, or upon the bed-linen or furniture. The surface was moderately warm. Some dye-stuff, in the form of a black powder, was found in his pocket. On inspection, the brain and its membranes were healthy and natural; there was neither congestion nor effusion in any part. The thoracic viscera were equally healthy, as well as those of the abdomen, with the exception of the liver, which contained several hydatids. A pint of a turbid inky-looking fluid was found in the stomach. The mucous membrane was red and very vascular, particularly at the union of the cardiac extremity with the œsophagus; this was ascribed to the known intemperate habits of the deceased. In the absence of any obvious cause for death, poison was suspected, and on analysing the contents of the stomach, they were found to contain bichromate of potash; and the dye powder taken from the man's pocket consisted of that salt mixed with cream of tartar and sand.

(To be Continued.)

THE

## British American Journal.

MONTREAL, OCTOBER 15, 1845.

### STRICTURES ON THE MEDICAL BILL.

The detail of events of considerable importance to the Medical Profession of this Province, has compelled us to intermit, in the last two numbers of our Journal, any further allusion to the provisions of the Medical Bill, introduced in the last Session of the Provincial Parliament by the Hon. Mr. Attorney-General Smith. Having already expressed our opinion on the educational clauses for Students of Medicine, and corrected several errors which they embodied, we purpose now to pass to the consideration of those which influence the professional education of persons desirous of practising as Apothecaries, and of females as Midwives. There can be no doubt that there exists as urgent a necessity for legislation in these latter instances, as in the former; it is our duty, then, to ascertain how far the provisions of the Bill meet the necessity of these cases, and first with reference to the Apothecaries.

The 8th clause, which defines the professional education of this class, in a few words thus expresses it—"A regular and continued apprenticeship for a period of three years with some medical practitioner, or licensed druggist or apothecary," during which he shall have "attended one six months' course of lectures on Chemistry, and one on *Materia Medica*;" or "a continued apprenticeship of five years" without attendance on the aforementioned courses of lectures, to be, however, in either case, followed by an examination before one of the medical boards. Conceiving now that the office of an

Apothecary involves no small degree of responsibility, and that the mere "selling of drugs and medicines" is the least important part of his duties, although it may prove to him the most profitable; that that responsibility mainly lies in the proper compounding of *formule*—in the possession of that knowledge which will assure him of the genuineness of the medicines which he may employ—in the ability to detect errors in *formule*, which might lead to disastrous results, of which, according to information, several instances might have occurred—in the proper exercise of a chemical, as well as a pharmaceutical knowledge in these, as well as a myriad of other instances, we maintain that his knowledge on these subjects should be fully adequate to meet the continual demands upon it. Will the proposed scheme of education adapted to this case by the Bill meet the emergency? We apprehend not. The amount of information to be derived from attendance on a single course of the lectures prescribed, will be, with such a minimum period of apprenticeship, too meagre to be of much value. He ought to be compelled to attend, at least, two courses of Chemistry, as an intimate acquaintance with that science is of the utmost consequence to him, and the minimum period of apprenticeship should be further extended.

But the clause further assumes, that a five years' simple apprenticeship shall be equal to a three years' apprenticeship, with attendance on the lectures specified. Here we think an error of prime importance has been committed. An apprenticeship alone will not impart that substantial knowledge of his profession, which would be acquired in attendance also on lectures; and attaching high value to lectures, in which the principles of his profession are unfolded, and his studies directed in proper channels, he should not be permitted to slight them. And the opinion to which we are now giving utterance, is also that of at least one eminent professional gentleman of this class in this city, who may be presumed to speak from an intimate knowledge of the absolute necessity of the case. If legislation in this matter is at all seriously intended, let it be done well. We would extend the apprenticeship to a minimum period of five years in all cases, with a compulsory attendance on two courses of Chemistry, and one of *Materia Medica*, of the duration specified in the Bill.

In addressing ourselves to a consideration of the 12th clause, which contains the enactment in reference to Midwives, we find ourselves met by difficulties. With very few exceptions, and these chiefly in the cities, females practising as such are generally very illiterate, and are mainly those whose poverty has driven them to this method of earning a livelihood. This, we believe, has been the case since the earliest settlement of the coun-

try ; and when we consider the enormous errors which they are continually perpetrating, and the valuable lives which are frequently sacrificed to their ignorance, the more speedily some legislative interference is taken with respect to them, the better for the community at large. But it becomes a question how far it would be politic to effect, with this class, a sudden transition through a regularly prescribed educational process, from their present low to a more improved condition, which would entail the deprivation of their services to very large tracts of country, scarcely or rarely visited by medical men, or to effect this highly to be desired end in a more gradual manner. We incline to the propriety of the latter mode, and the provisions of the clause will, we think, sufficiently answer the purpose intended. No particular course of study is directly or specially enjoined ; but after the lapse of one year, after the passing of the act, they will be compelled to submit to an examination, as to their competency, before one of the Medical Boards. The responsibility of issuing certificates of licences is thus thrown upon the Medical Boards, to whom it may safely be confided ; and it will then become their duty to grant certificates to those only who have evinced themselves qualified to undertake such trusts.

Such then are the educational clauses of the Bill ; and with the modifications which we have suggested, would sufficiently well subserve the interests of the Profession in the Province. Educated under the provisions of such an act, the Profession, in its several degrees, would quickly secure a high position, and would reflect the advantages which it possessed over the whole community.

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**MONTREAL EYE INSTITUTION.**—We have much pleasure in noticing the establishment of an Institution for Diseases of the Eye in this city, under the care of Dr. Morson ; Dr. Macdonnell being the consulting Physician. We have no hesitation in expressing our conviction that a specific charity of the kind is much wanted, and we doubt not its success, from the talent brought to bear upon it. An Institution of this kind, however, ought to receive in-door patients, as well as out-door, to the latter class of which its benefits are to be restricted. Doubtless, as it progresses, and its pecuniary resources become more extended, its doors will be opened to the reception of the former. With characteristic benevolence, we perceive that His Excellency the Governor-General has permitted his name to be associated with the undertaking, and we feel assured, that partaking as it will of his generosity and of his patronage, it must and will succeed.

**NATIONAL CONVENTION OF PHYSICIANS IN THE UNITED STATES.**—A spirit of reform appears to be pervading through, and influencing the medical profession of both Europe and America at the present moment. In Great Britain, in which the lead in this matter, appears to have been taken, a general association has been for some time formed for the purpose of watching over the interests of the Profession, and expressing a deliberative voice in such matters as appeared to affect them. In Norway, a move on the part of the government to ameliorate the Profession of that country, has been effected, and a notice of it recorded in the first number of this journal. France has not been behind in the great measure of reform ; an association for the same objects as the one in Great Britain, is now being attempted there. More lately still, we perceive the germ of a similar spirit manifesting itself in the medical community of the United States. The first step has been taken, as the following preamble and resolution, submitted by Dr. Davis to the New York State Medical Society at its late meeting, will testify :—

“ Whereas, It is believed that a National Convention would be conducive to the elevation of the standard of medical education in the United States, and

“ Whereas, There is no mode of accomplishing so desirable an object, without concert of action on the part of the medical societies, colleges, and institutions of all the States,—Therefore,

“ Resolved, That the New York State Medical Society earnestly recommend a National Convention of delegates from medical societies and colleges in the whole Union—to convene in the city of New York, on the first Tuesday in May, in the year 1846, for the purpose of adopting some concerted action on the subject set forth in the foregoing preamble.”

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**ESTABLISHMENT OF AN HOSPITAL AT KINGSTON.**—We are happy to perceive that an Hospital for the reception of Medical and Surgical cases has been within the last month opened in Kingston. The position of that city at the termination of the upper lakes, and the commencement of the St. Lawrence river, should present numerous advantages in respect to the number and variety of the cases presenting themselves for admission ; and if supported in a proper spirit by the community, would prove of infinite value to the city itself, as well as the adjacent country, where such an institution is much needed. There is no institution of the kind between Toronto and this city, a distance of about 389 miles. This fact strongly speaks for the necessity of one at Kingston, which is nearly intermediate. The Hospital opens under the immediate professional charge of Dr. Hallowell and Dr. Sampson, the latter being the consulting Physician. It has our best wishes for perfect success.

RETURN OF SICK IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC, FROM THE 1<sup>ST</sup> JULY, TO THE 31<sup>ST</sup> AUGUST, 1845, BEING TWO MONTHS.

J. PAINCHAUD, M.D. Physician.  
J. DOUGLAS, Surgeon.

DISEASES AND INFIRMITIES.	
Febris, . . . . .	99
Varicella, . . . . .	7
Herpes, . . . . .	7
Erysipelas, . . . . .	1
Bronchitis, . . . . .	2
Pneumonia, . . . . .	8
Phthisis, . . . . .	1
Catarrhus, . . . . .	10
Pertussis, . . . . .	6
Pleuritis, . . . . .	1
Dyspepsia, . . . . .	8
Rheumatismus, . . . . .	39
Diarrhoea, . . . . .	62
Icterus, . . . . .	2
Cephalalgia, . . . . .	6
Epilepsia, . . . . .	1
Cynanche (Tonsil), . . . . .	3
Porrigi Lupinosa, . . . . .	1
Periostitis, . . . . .	1
Hydrops, . . . . .	3
Hemiplegia, . . . . .	2
Parturitus, . . . . .	3
Syphilis, . . . . .	59
Orethritis, . . . . .	10
Stricture Urethrae, . . . . .	3
Fractura, . . . . .	14
Luxatio, . . . . .	3
Subluxatio, . . . . .	9
Contusio, . . . . .	36
Vulnus, . . . . .	15
Abcessus, . . . . .	10
Ulcus, . . . . .	17
Concussio Cerebri, . . . . .	2
Ustio, . . . . .	9
Morbi Alien, . . . . .	33
Total, . . . . .	415

NUMBER OF PATIENTS TREATED DURING THE MONTHS OF JULY AND AUGUST.

Remained, . . . . .	147	Discharged, . . . . .	461
Since admitted, . . . . .	415	Died, . . . . .	15
Total, . . . . .	562	Remaining, . . . . .	86

J. E. J. LANDREY, House Surgeon.

REPORT OF THE MONTREAL GENERAL HOSPITAL FOR THE MONTHS OF AUGUST AND SEPTEMBER.

DISEASES AND ACCIDENTS.	
Abcessus, . . . . .	5
Ambustio, . . . . .	2
Anasarca, . . . . .	1
Ascites, . . . . .	2
Bronchitis, . . . . .	9
Buritis, . . . . .	2
Cachexia, . . . . .	1
Caries Spinalis, . . . . .	1
Cataract, . . . . .	3
Catarrhus Senilis, . . . . .	1
" Vesicæ, . . . . .	1
Chlorosis, . . . . .	2
Colica Pictorum, . . . . .	2
Concussio, . . . . .	2
Coup de Soleil, . . . . .	1
Constipatio, . . . . .	2
Contusio, . . . . .	13
Diarrhoea, . . . . .	15
Delirium Tremens, . . . . .	12
Dyscoœa, . . . . .	2
Dysenteria, . . . . .	1
Dyspepsia, . . . . .	2
Eczyma, . . . . .	1
Emphysema Pulmonum, . . . . .	1
Enteritis, . . . . .	1
Epilepsia, . . . . .	1
Erysipelas, . . . . .	2
Febris Com. Con., . . . . .	89
" Typhus, . . . . .	10
" Intermitt., . . . . .	2
Fractura, . . . . .	6
Gonorrhœa, . . . . .	2
Hemorrhoida, . . . . .	2
Hypertrophica Mammarum, . . . . .	1
Hypochondriasis, . . . . .	1
Icterus, . . . . .	6
Impetigo, . . . . .	1
Ischuria, . . . . .	1
Lupus Ferox, . . . . .	1
Mania, . . . . .	1
Menorrhagia, . . . . .	1
Morbus Cordis, . . . . .	2
" Coxarius, . . . . .	1
" Ovarii, . . . . .	1
Neuralgia, . . . . .	1
Ophthalmia, . . . . .	10
Orethritis, . . . . .	1
Otitis, . . . . .	1
Paralysis, . . . . .	1
" Agitans, . . . . .	1
Pleuritis, . . . . .	1
Pleurodynia, . . . . .	1
Pleuro-Pneumonia, . . . . .	1
Pneumonia, . . . . .	5
Phthisis, . . . . .	5
Rheumatismus, . . . . .	20
Rupia, . . . . .	1
Scarlatina, . . . . .	3
Sciatica, . . . . .	1
Scrophula, . . . . .	1
Staphylococci, . . . . .	1
Staphylococci, . . . . .	2
Syphilis, . . . . .	11
Tic Dolorous, . . . . .	2
Tumor, . . . . .	1
Ulcus, . . . . .	16
Varicella, . . . . .	1
Vermes, . . . . .	1
Vulnus, . . . . .	1
Ulceration of Cartilages, . . . . .	1
Total, . . . . .	306

Dr. BRUNEAU, } Attending Medical Officers  
Dr. HALL, } for August.  
Dr. CRAWFORD, } Attending Medical Officers  
Dr. SEWELL, } for September.

NUMBER OF PATIENTS TREATED DURING THE MONTHS OF JULY AND AUGUST.

Remained, . . . . .	94	Discharged, Cured, . . . . .	287
Admitted, . . . . .	306	Died, . . . . .	12
Total treated, . . . . .	400	Remaining, . . . . .	101
		Total, . . . . .	400

IN-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . .	183
Immigrants, . . . . .	111
Seamen, . . . . .	13
Total, . . . . .	306
Males, . . . . .	187
Females, . . . . .	119
Total, . . . . .	306

OUT-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . .	419
Immigrants, . . . . .	87
Seamen, . . . . .	8
Total, . . . . .	514
Males, . . . . .	244
Females, . . . . .	270
Total, . . . . .	514

ALEXANDER LONG, M.D., House Surgeon.

BOOKS, &c., RECEIVED DURING THE MONTH.

American Journal of Insanity. Vol. ii, No. 1 and 2: July and October (Utica).  
Boston Medical and Surgical Journal. Nos. 7, 8, 9, 10.  
St. Louis Medical and Surgical Journal. September No.  
Dublin Medical Press. From July 2nd to Sept. 17th.  
Wiley & Putnam's Literary News Letter. October, 1845.  
Buffalo Medical Journal. October, 1845.  
Illinois Medical and Surgical Journal. Chicago, Sept.  
American Journal and Library of Dental Science. September (Baltimore) 1845.  
Southern Medical and Surgical Journal. October, (Augusta, Ga.)

NOTICE TO CORRESPONDENTS.

Letters have been received during the month, with enclosures, from Dr. Gilmour, (Three Rivers,) J. J. Sims, Esq., (Quebec,) Dr. Layton, (Toronto,) Dr. Painchaud, (Quebec,) Dr. Evans, (Port Hope,) Dr. Blakeney, (Royal Canadian Rifle Regiment, Chippewa,) Dr. O'Reilly, (Hamilton,) and Dr. Grant, (West Williamsburgh; the wishes of Dr. Millar, (Amherstburgh,) and Dr. P. V. De Boucherville, (St. George d'Henryville,) have been complied with.

The Journal has been forwarded to Dr. G. Dunham, (Brookville,) and Charles Leviscourt, Esq., (Belleville,) in accordance with instructions.

We have to acknowledge the receipt of a letter from Dr. Rae, of Hamilton. The matter alluded to by Dr. R. had escaped notice. It will receive early attention. The Editor regarded it as private. We are exceedingly indebted to Dr. Grasset, (Toronto,) for his kindness in the furtherance of our wishes, as conveyed to us in a letter received yesterday. Mr. Lefroy, the superintending officer at the Observatory, Toronto, will please accept our thanks for his ready acquiescence in our desire. We would suggest that a similar form to that employed in the Montreal Report be made use of, thus permitting of ready comparison, and that the hours of observation be the same. If Mr. Lefroy should entertain a different opinion, we at once yield. Shall we expect a Meteorological Report for the present month (October), to be inserted in the succeeding number? If mailed on the 4th or 5th of the month, the Reports would reach us in time sufficient for publication. Dr. Taylor's letter (Ristigouche,) has just arrived. Before this number of the Journal reaches him, he will have found his wishes fulfilled, and we hope satisfactorily.

In answer to Dr. Dowler's letter, (New Orleans,) we have to reply, that his pamphlet is under consideration, and notice will be taken of it in an early number.

**MONTHLY METEOROLOGICAL REGISTER AT MONTREAL—AUGUST, 1845.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+62	+77	+64	69.5	30.10	30.11	30.13	30.11	W.N.W.	W. by N.	W. by N.	Fair	Fair	Fair
2,	" 65	" 77	" 63	71	30.18	30.17	30.16	30.17	W. by S.	W. S. W.	S.W. by W.	Fair	Fair	Fair
3,	" 62	" 79	" 67	70.5	30.10	30.14	30.12	30.12	S. W.	S. W.	S. W.	Fair	Fair	Rain
4,	" 66	" 80	" 66	73	30.05	30.03	30.05	30.06	W. by N.	W. by S.	W. by S.	Rain	Sh'wrs	Fair
5,	" 63	" 81	" 68	72	30.05	30.05	30.06	30.05	W.	W. by S.	S. W.	Fair	Fair	Fair
6,	" 66	" 89	" 76	77.5	30.06	30.03	29.97	30.02	S. W. by S.	S. W.	S. W.	Fair	Fair	Fair
7,	" 74	" 90	" 75	82	30.00	30.00	29.99	30.00	S. W.	S. W.	S. W.	Fair	Fair	Fair
8,	" 75	" 89	" 74	82	29.99	29.98	29.98	29.98	S. W.	S. W.	S. W.	Fair	Fair	Fair
9,	" 76	" 90	" 77	83	30.02	30.00	29.96	29.99	S. W.	S. W.	S. W.	Fair	Fair	Fair
10,	" 74	" 92	" 78	83	29.89	29.78	29.70	29.79	S. W.	S. W.	S. W.	Fair	Fair	Fair
11,	" 74	" 88	" 70	81	29.66	29.64	29.66	29.65	S. W.	S. W.	N. by W.	Rain	Rain	Rain
12,	" 63	" 89	" 66	76	29.75	29.81	29.85	29.80	N.W. by W.	N.W. by W.	N.W. by W.	Fair	Fair	Fair
13,	" 64	" 80	" 70	72	29.92	29.91	29.90	29.91	N.W. by W.	W.	W.	Fair	Fair	Rain
14,	" 65	" 79	" 63	72	29.97	29.99	30.10	29.94	W.	W.	W.	Fair	Fair	Fair
15,	" 61	" 80	" 65	70.5	30.17	30.13	30.10	30.13	W.	W.	W.	Fair	Fair	Fair
16,	" 66	" 82	" 72	74	30.09	30.09	30.10	30.09	W.	W.	W.	Fair	Fair	Fair
17,	" 67	" 87	" 71	77	30.16	30.13	30.03	30.11	N. W.	N. W.	N. W.	Fair	Fair	Fair
18,	" 75	" 82	" 73	78.5	29.97	29.97	29.96	29.97	S. W.	S. W.	S.W. by S.	Fair	Fair	Fair
19,	" 65	" 80	" 69	72.5	30.10	30.10	30.08	30.09	N. W.	N. W.	N. W.	Fair	Fair	Fair
20,	" 64	" 90	" 75	77	30.10	30.05	29.98	30.04	N. W.	S. W.	S. W.	Fair	Fair	Fair
21,	" 73	" 90	" 70	81.5	29.97	29.76	29.92	29.88	N. W.	S. W.	S. W.	Fair	Fair	T. & R.
22,	" 71	" 82	" 71	76.5	30.04	30.04	30.03	30.04	N.E. by E.	N. E.	N. N. E.	Fair	Fair	Fair
23,	" 67	" 82	" 75	74.5	30.01	29.98	29.96	29.98	N. E.	N. W.	N. W.	Rain	Fair	Fair
24,	" 65	" 82	" 67	73.5	30.10	30.07	30.02	30.06	N. W.	N. W.	N. W.	Fair	Fair	Fair
25,	" 63	" 83	" 69	73	30.08	30.00	29.94	30.01	N. W.	N. W.	N. W.	Fair	Fair	Fair
26,	" 62	" 79	" 65	70.5	30.00	30.00	30.02	30.01	N. W.	N. W.	N. W.	Fair	Fair	Fair
27,	" 54	" 68	" 60	61	30.02	30.03	30.07	30.04	N.W. by N.	N.W. by N.	N.W. by N.	Rain	Fair	Fair
28,	" 50	" 78	" 65	64	30.30	30.30	30.30	30.30	N. W.	N. W.	N. W.	Fair	Fair	Fair
29,	" 65	" 75	" 66	70	30.20	30.11	29.94	30.08	S. W.	S.	S.	Fair	Fair	Fair
30,	" 58	" 74	" 59	64	29.86	29.86	29.86	29.86	S. by W.	S. W.	S. W.	Rain	Fair	Fair
31,	" 56	" 73	" 53	64.5	29.98	29.96	30.00	29.98	N.W. by W.	N. W.	W. N. W.	Fair	Fair	Fair

THERM. { Max. Temp., 90° on the 9th and 21st  
 { Min. " 50° " 23th  
 Mean of the Month, 73° 8'

BAROMETER, { Maximum, 30.30 Inches on the 28th.  
 { Minimum, 29.64 " 11th.  
 Mean of Month, 30.01 Inches.

**MONTHLY METEOROLOGICAL REGISTER AT MONTREAL—SEPTEMBER, 1845.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+53	+67	+58	60	30.00	29.94	29.87	29.95	N.W. by W.	N.W. by W.	N. W.	Fair	Fair	Fair
2,	" 52	" 64	" 57	57	29.70	29.65	29.56	29.65	N.W. by N.	N. W. by N.	N.W. by N.	Rain	Rain	Rain
3,	" 53	" 75	" 63	67.5	29.84	29.58	29.66	29.58	N.W. by N.	W. N. W.	W.	Cloudy	Fair	Fair
4,	" 61	" 71	" 56	66	29.60	29.61	29.64	29.62	W.	W.	W.	Fair	Sh'wrs	Fair
5,	" 57	" 69	" 59	63	29.74	29.78	29.77	29.76	N. W.	N.W. by W.	N.W.	Fair	Fair	Cloudy
6,	" 56	" 67	" 57	61.5	29.90	29.91	29.94	29.92	N.W. by W.	N.W. by W.	N.W. by W.	Fair	Fair	Fair
7,	" 56	" 65	" 50	60.5	29.30	29.20	29.70	29.40	S. W.	W.	W.	Rain	T. & R.	Cloudy
8,	" 44	" 66	" 49	55	29.99	30.03	30.07	30.03	N.W. by N.	N.W. by N.	N.W. by N.	Fair	Fair	Fair
9,	" 48	" 58	" 50	53	29.98	29.89	29.77	29.88	S. by W.	S.	S.	Fair	Rain	T. & R.
10,	" 54	" 65	" 50	59	29.30	29.85	29.93	29.86	W. by S.	W.	W.	Fair	Sh'wrs	Fair
11,	" 50	" 65	" 45	57.5	30.06	30.13	30.18	30.12	W.	W.	W.	Fair	Sh'wrs	Fair
12,	" 42	" 64	" 48	53	30.30	30.33	30.32	30.32	W.	W.	W.	Fair	Fair	Fair
13,	" 38	" 66	" 55	52	30.36	30.21	30.02	30.31	S.W. by S.	S.W. by S.	S. S. W.	Fair	Fair	Rain
14,	" 46	" 61	" 56	53.5	29.68	29.62	29.66	29.65	S.	S.	W.	Rain	Rain	Rain
15,	" 55	" 67	" 50	61	29.66	29.74	29.81	29.73	W.	W.	W.	Cloudy	Sh'wrs	Fair
16,	" 43	" 62	" 49	52.5	30.00	30.04	30.10	30.05	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Rain
17,	" 48	" 65	" 55	56.5	30.17	30.05	29.84	30.03	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	T. & R.
18,	" 57	" 70	" 57	63.5	29.71	29.76	29.75	29.75	W. N. W.	W. S. W.	W. S. W.	Rain	Cloudy	Sh'wrs
19,	" 49	" 65	" 52	57	29.89	29.89	29.88	29.89	N. W.	N. W.	N. W.	Rain	Fair	Fair
20,	" 53	" 64	" 59	58.5	29.80	29.68	29.50	29.66	N. W.	S. W.	S.W. by S.	Fair	Rain	Rain
21,	" 51	" 60	" 44	55.5	29.66	29.66	29.74	29.69	W.	W.	W.	Fair	Fair	Fair
22,	" 40	" 58	" 43	49	30.00	30.03	30.07	30.03	W. N. W.	W. N. W.	N.W. by W.	Fair	Fair	Fair
23,	" 39	" 55	" 48	47	30.12	30.07	29.95	30.05	N.W. by W.	W. by S.	W. by S.	Fair	Fair	Rain
24,	" 45	" 57	" 47	51	29.94	29.95	29.95	29.95	N. W.	N. W.	N. W.	Fair	Sh'wrs	Cloudy
25,	" 46	" 62	" 47	54	29.96	29.91	29.96	29.93	N. W.	W. N. W.	W. N. W.	Fair	Sh'wrs	Fair
26,	" 47	" 60	" 50	53.5	30.00	29.98	30.00	29.99	W. N. W.	W. N. W.	W. N. W.	Sh'wrs	Rain	Rain
27,	" 46	" 62	" 56	54	30.17	30.18	30.19	30.18	W. N. W.	W.	W.	Fair	Fair	Fair
28,	" 49	" 69	" 61	59	30.20	30.10	30.08	30.13	S. W.	S. W.	S. W.	Fair	Fair	Fair
29,	" 58	" 72	" 62	65	30.07	30.03	30.00	30.03	S. W.	S. W.	S. W.	Rain	Fair	Cloudy
30,	" 56	" 71	" 55	63.5	29.95	29.88	29.76	29.86	S. W.	S.W. by S.	S.	Fair	Rain	Rain

THERM. { Max. Temp., 75° on the 3rd,  
 { Min. " 38° " 13th  
 Mean of the Month, 57° 3'

BAROMETER, { Maximum, 30.36 Inches on the 13th.  
 { Minimum, 29.20 " 7th.  
 Mean of Month, 29.90 Inches.

THE  
**BRITISH AMERICAN JOURNAL**  
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VOL. 1.]

MONTREAL, NOVEMBER, 1845.

[No. 8.

**CASE OF SCARLATINA ATTENDED BY PROFUSE PERSPIRATION.**

By JAMES CRAWFORD, M.D., Lecturer on Clinical Medicine, McGill College.

*Proceedings of the Médico-Chirurgical Society of Montreal.*

I was called on the 27th July last, to see Mrs. M——, a healthy person, of full habit, and mother of six children, three of whom, I was informed, had just recovered from Scarlatina. She had been seized on the previous day with symptoms of smart fever, accompanied by sore throat. The face, neck, and shoulders, had, on the day of my visit, become covered with a bright scarlet eruption, accompanied by a general aching, or painful sensation over the body and limbs. There was headache, suffusion and redness of the eyes, difficulty of swallowing, the fauces being red and the tonsils tumid, tongue moist, and slightly covered with a white pasty fur, much thirst, the skin moderately hot and *perspiring profusely*. Pulse 130.

She stated that she had frequently been much exposed to the influence of Scarlatina, but had never taken it before. It was very evident that she was now labouring under the disease, not only from the character of the eruption and sore throat, but also from the exposure she had to its contagion in attending her children. The unusual condition of the skin attracted my attention, and on remarking it to the lady, I learned that the children *all had similar free perspiration*, and that this was the case, even with one of them who was so slightly affected with fever, as to be able, during most part of her illness, to keep out of bed. A fourth child took the disease while I was in attendance, but did not perspire.

The condition of the skin prevented my having recourse to sponging with cold water, which I should otherwise have done. I merely directed the throat to be well fumigated, with the vapour of boiling water and vinegar, a little castor oil to be given, and to have cold acidulated water to drink. During the following day she appeared to go on well, the throat being better and deglutition easier, the eruption proceeded in its progress of extension over the body, *the skin perspiring constantly and freely*. Pulse 130.

In the evening she felt a slight uterine pain, accompanied with a bearing down sensation, and also by a

slight hæmorrhagic discharge from the vagina, which alarmed her, for fear of a miscarriage. Having on a recent occasion experienced a similar mishap, an anodyne draught, consisting of tinct. opii. gt. xxxv., and liquor ant. tartarizati gt. xxx. in a little cinnamon water were ordered, which procured her a comfortable night, and quieted the action of the uterus. The uterine pains however returned in the morning, and were not influenced by even a large dose of opium. About noon, she aborted.

After the abortion, she appeared much easier, the febrile symptoms abating, thirst less, pulse fallen to 120, the eruption had begun to fade about the face and neck, the throat better, *perspiration continuing*, bowels gently open, uterine discharge trifling. She, about this time, began to complain of pains in her joints, particularly in the hands and wrists. She had felt a slight indication of this new complaint yesterday, but could hardly define the sensation.

On the 1st August, the eruption had nearly faded away, her bowels were confined and lochia stopped, skin still hot *and moist*; pulse 96. The pains of her hands, wrists, and elbows, were so severe that she could scarcely move her arms. She was ordered calomel gr ij., and pulv. ipecac comp. gr vi. ter in die.

On the following day the pains of her wrists and elbows were even more severe, and deprived her of the use of the limbs—the joints were also much swelled and red, the pains of the other joints (which were now generally affected) pretty much as before; pulse 90, skin cool. To-day, the most painful joints were painted with tincture of Iodine, and she continued her powders as yesterday.

On the following day, (3rd), the pains of her hands and wrists had subsided, the joints were still, however, stiff; and incapacitated her from using her hands. The pains now principally occupied the shoulder joints, to which the tincture was applied, and in a few minutes afterwards she was desired to try if she could not use the limbs, and to her great astonishment she found that she could move them about freely; the pain having almost immediately subsided. She also stated that she had obtained relief yesterday shortly after the application. From this time she began to improve daily, and was able to leave her bed on the 8th of the month—10 days from

the time I first saw her. She made a very good convalescence, which was aided by sulphate of quinine. Although the rheumatism left the joints, she still, on occasions, experiences weakness and slight pain. She lost a good deal of flesh during her illness, and although now in very good health, has not yet recovered her former *en bon point*.

There are several points of interest in this case, to which I would beg to draw attention. In the first place, the *profuse and continued perspiration*, a circumstance of such rare occurrence, that I have never observed a similar instance, nor am I able to discover any allusion to it in any of the authorities I have been able to look into on the subject. Several pass over the condition of the skin with an allusion to its high degree of temperature, a circumstance in itself sufficient to indicate the absence of perspiration, which would tend to reduce the heat did it exist. I may also add, that cold water could not be with propriety used upon the principles on which *Dr. Currie recommends it*, if perspiration existed. *Dr. Armstrong* says, the skin from the preternatural flow of blood towards it soon becomes not only morbidly sensible to the touch, but rough, dry, and hot.

*Mr. Green* in his work on diseases of the skin, says, the febrile excitement and heat of skin, &c., coincides with a *total suppression of perspiration in particular*, and of the secretions generally.

*Rayer* says the skin, which is much hotter in this than any of the other exanthematous diseases, is *burning, itchy, parched*, and tender to the touch.

Withering notices it to be intensely hot, *dry*, and harsh.

*Patterson* notices the heat to be morbid and pungent. *Good and Tweedy*, *Graves*, and such other authors as I have consulted, all speak of the great heat, but none mention, a state of perspiration, unless as a critical termination, upon the application of cold water.

The next circumstance I would notice is the unfavourable complication which abortion was likely to induce, although the issue in the case fortunately was otherwise. I have not had time to seek for authorities on this point. I believe all are agreed on this matter. *Tweedy* says it is a fatal disease, when it attacks pregnant or puerperal women.

*Watson* says, when scarlet fever befalls parturient women, it almost always proves fatal.

The issue on the present occasion, fortunately, proves an exception.

I shall now merely notice another complication, namely, the rheumatism, which when confined to the joints, is merely a painful addition, and a retardation of convalescence. It may however involve the heart, per-

icardium or other internal fibrous organ, and then materially complicates and adds to the danger of the complaint. On the present occasion it retarded the convalescence, and still is an occasional source of suffering to the patient.

The beneficial influence of the tincture of Iodine in removing the more acute affection, was most remarkable. This is a remedy which I have in many cases of acute articular rheumatism, found of the greatest service.

I attributed the unusual occurrence of perspiration, to idiosyncrasy, as I have not seen any other case so affected, either during the late epidemic, or on any former occasion.

Montreal, September, 1845.

#### SINGULAR CASE OF CEREBRO-SPINAL IRRITATION IN A YOUNG LADY.

By CHARLES WM. COVERNTON, M. D.

Read before the Toronto Medico-Chirurgical Society, July 2, 1845

Miss H. T., æt. 17; a tall and muscular young person, light hair and eyes, florid complexion, daughter of a respectable farmer, for two years previous to the present violent seizure, had been subject to severe headache, frequently followed by syncope; in the beginning of June, 1841, she experienced so violent an attack of these symptoms, that her parents sent for me to prescribe for her. On visiting her, I found her with a flushed countenance, heavy and languid eye, tongue but little coated, pulse about 90, respiration and action of the heart normal, catamenia regular, no perceptible tenderness on pressure along the spine—bowels open from medicine previously administered;—the intense pain of head was then referred to the centre of the coronal suture, and has continued in that spot, with but very slight occasional relief, to the present period, (August, 1842.) I abstracted blood to  $\text{℥ xii}$ , and prescribed ten grains of colocynth pill, with gr. iij of the submuriate at bed-time, and effervescent saline draughts every four hours. The next day there was but little alteration in her symptoms, and the medicines were ordered to be continued. On the evening of the third day, I was summoned in great haste, and found her to be in a perfect state of insensibility, countenance flushed, pupil dilated, pulse slow and oppressed. I again bled to  $\text{℥ xviii}$ , ordered the hair to be cut, and applied evaporating lotions, counter-irritation with sps. turpentine along the spine, blisters to calves of the legs, and placed two grains of submuriate on the tongue every four hours. Towards the middle of the night she made urgent attempts at vomiting, but immediately lapsed into insensibility. In the afternoon of the next day, she recovered from this comatose state, but was perfectly blind, the brightest light having no



action on the pupil. Together with this amaurotic condition, there was found to be a perfect loss of sensation of the left half of the body, and of power over the sphincter muscles. She appeared now to be in a state of great exhaustion, face deathly pale and voice feeble. The *right* arm and hand were affected with muscular twitchings and spasms, greatly aggravated by the least mental emotion. These symptoms were followed the next day by most violent convulsive fits, brought on by apparently the most trivial causes, such as the heavy tread of a person on the floor, shutting a door, or noise of vehicles passing on the road, the sudden bark of a dog or the lowing of cattle. Her strength in these fits was extraordinary, five or six strong persons would sometimes hardly suffice for keeping her in the bed; frequently exhibiting a perfect state of emprosthotonos. In the intervals the stomach was so irritable that every thing in the way of food or medicine was immediately rejected, very hot tea in small quantities being the only liquid it would retain; liquids given cold occasioning most distressing cramps. These symptoms were succeeded in about three weeks by most violent and prolonged hiccough brought on in the same manner as the convulsions by the least noise or excitement of mind. For a period of six months, she continued to be subject, daily, either to convulsion or hiccough, (according to the degree of irritation.) The only amelioration of her condition being a recovery of sight. The vomiting, pain of head, and loss of sensation remaining the same. Although, from the first commencement of her illness, she has taken barely sufficient to sustain life, there is but little emaciation, bowels regular and tongue clean. At Christmas, 1841, I first noticed a remarkable feature in this strange case. Immediately on raising the head from the pillow, she would become perfectly insensible, if merely by the addition of a couple of pillows, it would only last for five or six minutes, but, if bolstered up in a sitting posture, until she was again laid on the bed. Instantly on raising her, the action of the heart would become scarcely perceptible, the countenance bloodless, the eyes partly open, having a fixed and glassy stare. When in this state the attendants could dress an issue in the loins, or attend to her in other ways, without the slightest consciousness being perceptible, whereas, if attempted when in the supine position, it would almost directly occasion either a violent fit of hiccough or convulsion. In January, 1842, for the space of a fortnight, the vomiting was so constant and intractable, that she was principally supported by enemata of beef-tea and chicken soup—all attempts at relieving it by counter-irritation over the stomach, along the course of the phrenic, exhibition of hydrocyanic acid, effervescent, kreozote, &c., proving futile.

The above notes were made in August, 1842. From that period to the present, June, 1845, her condition has been much the same. The sensation of the left half of the body has been principally restored by the use of strychnine, sprinkled on a blistered surface. Sometime after the use of this, obstinate constipation and retention of urine, requiring the daily employment of the catheter occurred. The insensibility on change of posture remains unchanged. Her mother, a few months back, was of the opinion that she could bear her head higher than formerly, without syncope being induced, but the amelioration is but trifling. At the first commencement of her illness, before the irritability of the stomach was so excessive, suspecting there might be visceral obstruction, I administered croton oil in combination with extract of colocynth, giving alternately with it neutral salts. The treatment afterwards consisted in long continued counter-irritation by blisters, setons, &c., along the course of the spine, nape of neck, and temples. Hydrocyanic acid in combination with hyosciamus for a long time afforded the most relief to the pain and vomiting; afterwards when it failed in arresting it, morphine sprinkled on a blistered surface, was of temporary use. With the exception of one short interval, during the whole period of this long illness, she has menstruated regularly, and to judge from her appearance in a recumbent posture, a stranger would imagine her to be in perfect health. Convulsion or protracted hiccough is now of rare occurrence, but will even still occasionally result from sudden noise or emotion of mind.

#### CASE OF "GLANDERS" IN THE HUMAN SUBJECT. (EQUINIA.)

By C. SMALLWOOD, M. D., St. Martin.

*History.*—Louis H., married, æt. 42, farmer, of spare habit, given to drink rather freely of spirituous liquors, otherwise healthy; was taken ill on Saturday, 20th April, 1844, with a pain in the head and back of the neck, which prevents him from sleeping.

*Present State.*—Applied this day, 22nd, at 5, p. m., complains of headache, pain in the back of the neck, and limbs; the pain at the back of the neck increased by motion; skin hot; a slight redness and tumefaction of the right eye-lid; pulse 90; tongue moist, covered with a brownish fur; slight thirst; loss of appetite; bowels natural; urine high coloured.

R Hyd. Submur.

Pulv. Antimon. aa gr. v. Fiat. Pulv. S. S.

R Magnes. Sulphat. ʒi.

Acid. Sulphur. Dilut. ʒij.

Potas. Nitrat. ʒi.

Aquæ. Ment. Piperit. ʒvij. M. Hujus. mist. sumat. cochl. quart. omni hora. donec venter rite solutus fuerit.

R Liq. Plumb. Acetat. Dilut. Oī. Lint. quadruplicat.



hoc liquore frigido madefact. partibus inflam. applicent., et sæpissime renouentur.

24th.—His wife applied this day; states the pain in the neck and limbs not alleviated; headache diminished; reports the tumefaction of the eye-lid increased; soreness of the throat; bowels have been freely opened, (by medicines ordered); fæces dark coloured and offensive.

Repetant Mist. et Lotio.

25th.—Visited him this day, at 4, p. m., (about a league distant), the redness, and swelling increased, so as to completely close the eye-lid, with great heat; redness does not disappear on pressure; great restlessness; pulse 100; skin hot; difficult deglutition; pharynx and tonsils tumefied and red; increased secretion from the nostrils and saliva; breath very offensive; tongue furred; bowels loose; fæces dark and very offensive.

R Hyd. Submur. gr. xxiv.

Pulv. Opii. gr. iij.—Fiat. Massa in Pillul. xij. dividend. Sumatur una omni hora.

*Midnight.*—Complains of intense heat of the head, neck and throat, so much so that he is constantly calling to have cold water applied; a secretion of viscid mucus, of a yellow colour, from his nostrils and throat; the tumefaction extended to both eye-lids; increased difficulty in deglutition and respiration; skin moist; pulse 110; occasional delirium; dejections dark, liquid, and offensive; urine high coloured.

R Tinct. Hyoscyami, 31.

Mist. Camph. § 1.—Ft. Haustus S. S.

26th.—1, p. m., swelling of the eye-lids increased so as entirely to prevent vision; skin diminished in temperature; complete inability to swallow; increased secretion from the nose and throat, of a dark colour, and viscid; the swelling has assumed a lurid hue; delirium; tongue coated with a dark fur; vibices; pulse 120, and small; involuntary dejections and very offensive: (endeavoured to force down some wine but could not); a number of pustules appeared this morning on the legs and body, and two on the face, as large as those in variola, containing a watery fluid, of a dark red colour; respiration laborious; constant muttering, and picking at the bed-clothes; urine fetid and dark; skin bathed in perspiration. Ordered wine to be given frequently, and to gargle with wine and water.

27th.—8, a. m., evidently sinking; scarcely able to rouse him; respiration still laborious; has swallowed a few spoonfuls of broth; I forced down some wine; pustules shrunk and livid; secretion from the nose and throat copious and very offensive; cannot swallow. Left a mixture of Ammonia and Camphor, of which, he did not take but one dose.

28th.—Died at 6, a. m.; the friends would not consent to a *post mortem* examination.

*Remarks.*—I did not, until my visit to his house on the 25th, (the third day after he applied in person), suspect the true nature of the disease, but from the train of alarming symptoms then present, I made a more careful inquiry, and it was with some difficulty I succeeded in ascertaining the facts of the case, which left no doubt as to its real nature. The mare from which the contagion was propagated, died shortly afterwards with confirmed glanders. It would appear that my patient was administering a medicinal drink to the animal, 2 or 3 days previous to his illness, and that she snorted some of the drink into his face, to which he paid no attention, and thought so very lightly of it, that he did not even wash his face for some time afterwards; he was assisted in the operation of *drenching* the animal, by his son, who escaped the disease. The mare, during the time she was in his possession, (which was only a short time,) did not communicate the disease to any other of his cattle; she was sold twice afterwards, and died in about 20 days from the death of my patient.

The *Diagnostic* marks of the disease, as far as my observation goes, consists of, 1st., The increased secretion of the nose and throat. 2nd., The intense sensation of heat in the head, neck, and throat, (it was most distressing to hear the poor fellow crying out for cold water to be thrown over him). And 3rd., To the heat succeeds a very copious fetid discharge. The inflammatory symptoms having given way to the typhoid, and, I may add, the pustular eruption.

At a future time I shall recur to this subject. St. Martin, Isle Jesus, Oct. 25, 1845.

[The exceeding rarity of this disease, in this country, (this is the only case of which we have heard), very naturally points to the inquiry, whether professional men located in other parts of the Province, have met with similar cases. We are exceedingly obliged to Dr. Smallwood, for the above communication, for it has, at least, tended to remove one erroneous impression under which we laboured, that glanders in the human subject was unknown in this Province: not by any means that the disease has not been well recognised in veterinary practice, but that from the influence of climate, its virus had become mitigated, if not destroyed; for we can scarcely imagine that occasions for inoculation are not as frequent here as in Europe.—Eds.]

REPLY TO DR. RAE'S OBSERVATIONS, BY THE REV. W. T. LEACH.

To the Editor of the *British American Journal*.

SIR,—It is so long since Dr. Rae's remarks appeared in your journal, that I fear you may consider it too late to advert to them. It appears to myself that a reference to them now is indeed superannuated; but then the subject matter that has become the object of question be-

tween Dr. Rae and myself, is not like a transaction of the day, which tomorrow passes over as utterly insignificant; the phenomena, the very imagination of which fires the poetical spirit of Dr. Rae, remain ever apparent, and strike every eye; to the cultivators of geology, they possess a permanent interest, and with them can be recurring to after any intervals of time, with undiminished satisfaction.

The language of Dr. Rae, in commenting upon the observations which I ventured to have published in the *British American Journal*, breathed a tone, it then seemed to me, of unnecessary severity—I think of some dogmatism too. If I recollect correctly, my observations were offered with no arrogance nor pretension that could justify severity. It is difficult to see the validity of Dr. Rae's right to pronounce the observations of others, in matters purely scientific, heterodox and heresy. I distinctly refuse to plead to his jurisdiction, and stand upon my own right to differ in opinion on such questions from anybody I please, for all that he may think it such presumption to differ from so great a genius as himself. Seriously, the gathering and estimating of evidence being all that is concerned in the question, and the nature of the pursuit being happily exclusive of all contentious passions, let Dr. Rae and myself look to nothing but the evidence, and seek for nothing but the truth.

Let it be granted, as Dr. Rae advances, that were the surface of this continent "tomorrow depressed a thousand feet, there are only four openings by which the waters of the Atlantic could find admittance to the bed of an interior sea thus created." It may also be correct "that this subject has been a matter of careful and scientific investigation and accurate measurement, carried on for a series of years by the Geologists employed by the several States for ascertaining all the facts connected with the science which their respective territories present, and embodied in copious reports laid before their respective Legislatures." With regard to the other question of Dr. Rae—the formation of the several communications or vallies of the Mississippi, the Susquehanna, the Hudson and the St. Lawrence, it may likewise be correct that the Geologists who have examined this question "all agree in ascribing their existence, or at least their existence in the form they actually present to us, to the agency of water bursting out from an inland reservoir." Dr. Rae adds, "upwards I think of forty years since—the evidences of it are so clear and strong—it struck the then comparatively unskilled and unscientific observers as a thing the proofs of which were too palpable to be disputed."

Before adverting to the evidence which is subsequently

adduced by him, I cannot but remark it to Dr. Rae as an anomalous and scarcely right procedure, to assume in his favour the whole body of the authority of the States Geologists. What was thought indisputable forty or twenty-three years ago, cannot now be considered an overwhelming authority—the Wernerian theory, then so generally adopted, having since been found so inadequate for the explanation of phenomena such as are involved in the present question, and though "up to the present moment there has not been a whisper against the original hypothesis," it is too vast a conclusion, and an unwarranted one, to infer from this circumstance, that "all observers (the States Geologists) concur in admitting that these vallies exhibit very evident traces of water having at some antecedent time burst a passage through them." Nothing but the present expression of their opinions in favour of this view could justify Dr. Rae's protecting his hypothesis with a shield of authority so immense, and this shield is taken away from it if his right to adopt it is found to be invalid. It is not in my thoughts that Dr. Rae requires any authority to support whatever conclusions he may arrive at, but the exhibition of such a force of it, whether intended to be so or not, is an appeal to popular sentiment, which has nothing to do with the decision.

The attention of every person who, with an observant eye, travels through any part of Canada, must be arrested with those evidences of the action of ancient waters that are visible in the finely expressed marginal lines found on the slopes of vallies and the flanks of the mountains. To account for these it has often been supposed, and I believe generally understood, that each of these marginal lines indicates the action and elevation of an ancient inland sea, and that the differences between them correspond with measures of disruption in a supposed containing barrier. These disruptions in the barrier are conceived to have been brought about in points of the mountain ranges towards the mouths of the great rivers of the continent; that is to say, mountains of many miles extent are supposed to have been extended across their mouths, and to have been carried away by the waters in successive rebellious outbreaks. "I have not," says Dr. Rae, "the materials by me to give the proof of the interior waters having burst through at all these points, and if I had them, it would extend my paper to an intolerable length were I to set about putting them to use. It will be sufficient for me to show that there are good reasons for believing that the immediate agent in the formation of one of these vallies was water forcing its way from the interior, for if we are satisfied that it had to force its way at one point, we must of necessity conclude that there

could then have been no free passage for it at the others." This will never do. Let Dr. Rae beware of his conclusions. Sufficient, says he? Sufficient it may be to clear the way of the St. Lawrence, but sufficient to stop up for ever the mouths of the Hudson, the Susquehanna and Mississippi. Here is a sea of vast extent imprisoned by a barrier of mountains; its walls of rock have long sustained impregnable the heaviest assaults—remained sulky and unshaken in a thousand storms. The waves at length overmaster them at some weak point, and out rush they roaring and rejoicing, greatingening at every bound the gap of the prison wall, nor stop for a moment the laughing thunder of their sport, till they have effected a general delivery, and extorted the privilege of strolling at large. But what use, let me inquire, could there be in making two or three, or four gaps? What use could there be? and *how could they do it within* when they were out? If they could not knock down the mountain across the Mississippi before, how could they do so now when so many of them had gone away by the St. Lawrence? The deluge which subsequent to the tertiary era has left behind it such various and vast proofs of its force, might have effected something in the way of disruption, but Dr. Rae himself will probably assign this deluge to a period antecedent to the supposed inland sea, and besides this, instead of accounting for the marginal lines, is certainly the true cause of their frequent obliteration, where otherwise they should have been apparent. To suppose that the said barriers were burst asunder by the waters acting in any thing like the present form of their existense, is to suppose that the four barriers agreed to be broken up at the same point of time, made the same agreement, too, at divers successive intervals, and adjusted at each time the measure of disruption that each should be subjected to. Nothing can be more evident, than that one barrier being removed, the force that would remain for the removal of the others must necessarily be reduced—the force reduced, and the opposing obstacle proportionably increased, *i.e.*, the production of a condition which rendered the disruption of the others by the same forces a physical impossibility. When the fountain Arethusa sunk under ground in the Peloponesus and rose in Sicily, it performed a feat not half so admirable as the waters of this inland sea in the removal of their mountain gates.

It seems superfluous to notice that the regions bordering on the locality of the barriers supposed to have been removed, will probably present traces of the action of water. The evidence furnished by Dr. Rae is abundant on this point, and the extensive range of his observations gives his views a claim to be regarded with very great respect. We should naturally expect among those re-

gions, as throughout Canada at large, the terraces or marginal lines so often adverted to, nor would it be regarded as extraordinary were the faces of the hills found to be abraded and furrowed by the action of those waters ascertained to have passed over the continent in a rapid deluge from the North West; but with submission it may be said that these appearances fail to prove the specific action which Dr. Rae supposes them to demonstrate; and indeed it would be difficult to describe the phenomena in rocky strata that would suffice for such proof, phenomena distinguished by characters not usually appertaining to the action of currents and seas generally.

No necessity requires the Geologist to ascribe the formation of such a valley as the St. Lawrence to the action of water. Whatever work it may perform in them afterwards, it is surely probable that most valleys of large extent were found by it *ready made*. It has never been alleged that the inequalities of the earth's surface are to be attributed to water solely, or running streams and currents. The moon is found to be bristling with inequalities, though it possesses no water at all, and if water were created on it, instead of having the trouble of forming valleys, would have only to fill them. No matter how old the world may be, what was an inequality in its youth may be an inequality still. The valley of the St. Lawrence may be an original engraving, and though we behold, as in the Ottawa, the waters cutting deep into the recent strata, sometimes of enormous thickness, yet are they only removing the intruded materials that had diminished its original depths; and such, in point of fact, is part of the present business assigned them.

(To be Continued.)

*Observations made at the Magnetical and Meteorological Observatory at Toronto, in Canada. Printed by order of Her Majesty's Government, under the superintendence of Lieut.-Colonel Edward Sabine, of the Royal Artillery. Vol. I.—1840, 1841, 1842. London: LONGMAN & Co., 1845.*

(Continued from page 180.)

The meteorological observations, connected as they are with the character of our climate, are perhaps the most valuable portion of the work now under our consideration, from their being more generally understood throughout the community, than the "ponderous" and scientific details of magnetic perturbations which come only within the scope of a limited class. These meteorological observations were conducted with the most perfect attention to extreme accuracy, and may therefore be fully depended upon as affording indisputable results. The remarks of Lieut.-Col. Sabine, we shall generally give nearly in his own words, while the tables we condense to suit our columns.

*Thermometer.*—The highest temperature of the

day, on the annual average, is between 2 and 4 p. m. and the coldest between 4 and 6 a. m. In the winter months, the minimum is at the later, and the maximum at the earlier hour; in summer, the reverse takes place. The mean daily difference in the height of the thermometer in the several quarters of 1841 and 1842 were as follows:—

	Max.	Min.	Difference.
Winter,...	28.1° 32.0°	21.2° 25.9°	6.9° 6.1° = 6.50°
Spring,...	47.3 50.7	33.1 37.4	14.2 13.3 = 13.75
Summer,...	74.3 71.3	57.1 54.2	17.2 17.1 = 17.15
Autumn,...	51.8 51.0	41.9 40.1	9.9 10.9 = 10.40
In the yrs.	50.1 50.9	38.6 39.7	11.5 11.2 = 11.35

In 1841, June was the hottest month of the year and February the coldest; the respective mean temperatures were 66° 2' and 23° 2'. In 1842, August was the hottest month and January the coldest, the temperatures being 65° 7' and 27° 9'. The monthly means were obtained by the result of observations every two hours; the annual mean of 1841 being 43° 9', and 1842, being 44° 8', = to 44° 35'; on the two years,

The temperature in 1841 and 1842, as shown in quarterly and annual means, is ascertained to be—

Winter,.....	24.6°	28.5°	= 26.5°
Spring,.....	39.6	43.2	= 41.4
Summer,.....	65.4	62.4	= 63.9
Autumn,.....	46.2	44.9	= 45.5
In the years,.....	43.9	44.8	= 44.35

**Barometer.**—The daily, monthly, and annual means of the barometer, for 1841 and 1842, were also obtained by observations at every two hours, at 32° Fah., and are reckoned at 29 inches + the numbers below. The daily difference in the quarters was—

	Max.	Min.	Difference.
Winter,.....	.631 .578	.574 .529	.057 .049 = .053
Spring,.....	.632 .618	.580 .574	.052 .044 = .048
Summer,.....	.653 .678	.592 .624	.061 .050 = .0555
Autumn,.....	.626 .664	.593 .616	.033 .048 = .0405
In the years,.....	.634 .635	.588 .591	.046 .044 = .045

The quarterly and annual means, as ascertained for 1841 and 1842, are—

Winter,.....	.601	.551	= .576
Spring,.....	.608	.591	= .600
Summer,.....	.620	.650	= .635
Autumn,.....	.606	.637	= .622
In the years,.....	.609	.608	= .608

The following particulars relative to the diurnal variation of the barometric pressure are derived from the tables. The morning maximum takes place at eight A.M. in the summer, and at ten A.M. in winter; in spring and autumn it is almost equally divided between those hours. The afternoon minimum takes place at two P.M. in winter; six P.M. in summer, and at four P.M. in spring and autumn and in the annual means. The second maximum occurs at eight P.M. in winter, is equally divided between eight and ten P.M. in autumn, is at ten P.M. in spring, and at twelve in summer. On an average of the whole year it is at ten P.M. The second minimum

is at two A.M. in spring, summer and autumn, and in winter it occurs two hours and occasionally four hours earlier. From the average heights of the barometer in the several quarters, the winter and spring quarters are found below, and the summer and autumn quarters above, the general mean. The mean height in August is higher than that of any other month in 1841 and 1842, and February, in 1841, and January, in 1841, have the lowest barometric pressures of those years respectively.

**Elastic Force of Atmospheric Vapour.**—The elastic force of the vapour at Toronto has but one maximum and one minimum in the twenty-four hours. The maximum occurs at two P.M. on the annual and separate quarterly averages. The minimum takes place at four A.M. on the average of each year and in each separate quarter, except in autumn, 1842, when it was at six A.M.; but if the observations were made at shorter intervals than two hours, the minimum would probably be found to take place earlier in spring and summer than in winter and autumn. The average daily difference between the greatest and least elevated force of the vapour in each of the two years and in each quarter was ascertained to be in inches.

	Max.	Min.	Difference.
Winter,.....	.130 .149	.112 .132	.018 .017 = .0175
Spring,.....	.214 .216	.168 .179	.046 .037 = .0415
Summer,.....	.516 .480	.408 .371	.108 .109 = .1085
Autumn,.....	.300 .277	.257 .235	.043 .042 = .0425
In the years,.....	.290 .279	.236 .231	.054 .048 = .0510

The quarterly and annual means for the two years, 1841 and 1842, as ascertained, are—

Winter,.....	.121	.140	= .131
Spring,.....	.188	.196	= .192
Summer,.....	.462	.426	= .444
Autumn,.....	.279	.258	= .269
In the years,.....	.262	.255	= .259

The average amount of tension of the vapour is less in winter and spring, and greater in summer than the mean of the year. Autumn approaches nearly to the mean but is somewhat higher. Both in 1841 and 1842, the month of August has the greatest elastic force of vapour. February, in 1841, and January, in 1842, have the least in their respective years. These are the same months which have the highest and lowest mean heights of the barometer in the same years.

**Humidity of the Air.**—The mean degree of humidity in both years is 78, or on an average of the whole year, the air contains a proportion of vapour of which the elastic force is 78 parts of 100 of the amount required for saturation. The spring is the driest quarter, then the summer, then the autumn, and the winter is the most humid quarter. May is the driest month of the whole year,\* and December

\* It must be borne in mind that these calculations are based on observations at Toronto. Its position on the borders of Lake

the least so. The diurnal variation of the humidity has one minimum which, on the annual average, occurs at four P.M., but in autumn and winter is frequently at two P.M. The maximum takes place at six A.M., on the annual and separate quarterly averages. The quarterly and annual means of humidity for the two years, 1841 and 1842, as ascertained, are—

Winter.....	84	84	=	84
Spring.....	79	70	=	71
Summer.....	76	76	=	76
Autumn.....	81	82	=	82
In the years.....	78	78	=	78

**Pressure of Gaseous Atmosphere.**—The diurnal pressure has one maximum which occurs about the coldest hour of the day, and one minimum about the warmest hour. In summer, the maximum is about four A.M.,—in autumn, six A.M.—in spring, eight A.M.—and in winter, intermediate between eight and ten A.M. In spring and summer the minimum is at four P.M.—in autumn, intermediate between two and four—and in winter, at two. These differences are obviously connected with the variations of temperature in the different seasons. The average diurnal variation in summer is nearly double the amount at any of the other three seasons of the year. The diurnal variation of the gaseous atmosphere exceeds the diurnal variation of the barometer in every quarter, as well as on the annual average. The annual variation consists of a maximum pressure in midwinter, and a minimum in midsummer. The average amount of the difference in the daily pressure in the several quarters of 1841 and 1842, are 29 inches, + the figures in the table.

	Max.	Min.	Difference.
Winter.....	.511	.439	... .445 .381 ... .066 .058 = .062
Spring.....	.446	.422	... .374 .366 ... .072 .056 = .064
Summer.....	.213	.276	... .095 .159 ... .118 .117 = .1175
Autumn.....	.347	.416	... .293 .342 ... .054 .074 = .064
In the years.....	.374	.383	... .302 .314 ... .072 .069 = .0705

The quarterly and annual means for the two years are 92 inches, + the figures in the table.

Winter.....	.480	.411	=	.446
Spring.....	.420	.395	=	.408
Summer.....	.158	.225	=	.192
Autumn.....	.327	.379	=	.353
In the years.....	.346	.353	=	.349

**Extreme Ranges.**—The following are the maximum, minimum, and range of the Thermometer, Barometer, Elastic Force of the Atmospheric Vapour, and Humidity of the Air, as observed in Toronto in 1841 and 1842:—

	Max.	Date.	Min.	Date.	Range.
Thermometer	1841, 91.7	June 29	5.2	March 14	96.9
"	1842, 90.8	July 19	2.8	Jany.	2 88.0
Barometer....	1841, 30.355	Jan. 18	28.727	Feby. 22	1.628

Ontario, and the difference of its latitude from that of Montreal, may, and probably does, materially affect the humidity of the air. We are not disposed to think that May is our driest month, and we feel confident we will be confirmed in that opinion by many a housekeeper, accustomed to "flitting" at that period of general removal and destruction of household furniture.

	Max.	Date.	Min.	Date.	Range.
Barometer....	1842, 30.417	Dec. 21	28.672	Dec.	4 1.725
Elastic Force	1841, .860	July 23	.017	March 14	.843
"	1842, .741	Aug. 27	.049	Feby.	8 .692
Humidity....	1841, .100	Frequent	22	July	2 78
"	1842, .100	do	22	Twice in Mar.	78

**Direction and Force of the Wind.**—The Anemometer used at the Observatory fully answers its purpose in recording the *direction*, but was less satisfactory in recording the *pressure* of the winds. In pressures of less than 1 lb. the plate did not move, or the record of its motion was very uncertain. Even in higher winds, the spring was insufficient to bring the pencil back to the zero, so that high pressures might continue to be marked after the wind had lulled. But these defects have been subsequently somewhat overcome, and more satisfactory performances obtained. In the present tables no pressures under 1 lb. are noticed. The force of the wind was also observed by *estimation* on a scale of thirteen gradations, designated by corresponding terms. The terms of the scale, and their corresponding values, varied from "very light, nearly calm," or 0.2 lbs., to "great storm," or 20 lbs. On comparing in detail the records by estimation and by the instrument, the record is generally satisfactory,—both record a preponderance of pressure from the N. and the W.; and in both years the hours in which the winds blew from the points included between N. and W. exceeded those from any one of the other quarters. A great majority of the high winds were also from the same direction. The hours of calm in 1841 were 2669, and in 1842 were 2409; those at which there was more or less wind were respectively 6010 and 6250,—the hours of wind being to those of calm in proportion, differing little in either year from that of 5 to 2; the balance to make up the number of 8760 observations to the year, being 81 and 101, being the number of hours in the respective years during which the instruments were out of order. In reference to the diurnal variation of the wind's force, its pressure is considerably greater during the day than the night; the force begins to increase between 6 and 8, A.M., reaches its maximum at noon, or soon after, and diminishes again until 10 or 12 P.M., undergoing little change during the remainder of the night. The pressure of the winds for 1841 and 1842, as taken by the anemometer, was respectively 4246.7 and 6247.0 lbs.; and divided by the number of hours during which the several winds prevailed, with the whole recorded pressure, we draw the following result:—

Direction.	Hours of prevailing Winds.	Whole Pressure.
N. ....	795 ... 450	543.1 ... 512.8
N. N. E. ....	348 ... 333	222.0 ... 341.3
N. E. ....	330 ... 208	164.3 ... 202.5
E. N. E. ....	310 ... 470	131.6 ... 317.6
E. ....	460 ... 519	324.0 ... 428.4
E. S. E. ....	395 ... 278	135.7 ... 295.9
S. E. ....	296 ... 333	235.0 ... 137.4

S. S. E. ....	301	264	49.3	51.8
S. ....	315	373	86.6	103.0
S. S. W. ....	363	547	178.7	254.9
S. W. ....	305	448	204.5	578.1
W. S. W. ....	282	346	228.6	752.2
W. ....	384	356	315.7	297.6
W. N. W. ....	326	400	539.5	418.9
N. W. ....	357	412	503.1	668.6
N. N. W. ....	413	513	385.0	886.0
	5010	6250	4246.7	6247.0
Calm, ....	2669	2409		
No observations ....	81	101		
	8760	8760		

The greatest pressures of the winds during the two years, is recorded by the anemometer, gives 23 days between N. and W., 11 between S. and W., and 4 each between N. and E. and S. and E., 5 from the N., 2 each from W. and E., and 0 from S. The receiving surface of the anemometer rain gauge, was about 9 feet above the ground. It indicated 26°. 58' inches in 1841, and 42°. 80' in 1842.

**Rain Gauge.**—An instrument for determining the quantity of rain falling at different intervals was attached to the anemometer. Its receiving surface was about 9 feet above the ground. In 1841, 8.14 inches fell in the month of July, which was the maximum; the minimum amount, 1.16 inches, fell in March. In 1842, the maximum quantity fell in September, amounting to 6.16 inches; the minimum, in May, being 1.28. The whole amount which fell in 1841 is rated at 36.58 inches,—in 1842 at 42.80 inches. These observations, however, are not sufficiently extended to permit of any very useful result.

The third and most voluminous portion of the work now under consideration, consists of 340 pages of tables, comprising the observations made at the Toronto Observatory, on the monthly term periods agreed upon in Europe, and taken at short intervals at mean Göttingen time, Toronto being 5h. 57m. 12s. 5., or nearly six hours west of the latter place. To show how very numerous and minute these observations were, it will be only necessary to state, that in 1840 the declination of the magnet was noticed throughout the 24 hours every five minutes, its horizontal and vertical forces every ten minutes; and that hourly observations were taken of the barometer, the dry and wet thermometer, the direction and force of the wind, and the general state of the weather. At the end of the year there are reductions of the observations of the declination and horizontal intensity by curved lines, with the corresponding curves as far as obtained from Boston, Philadelphia, and Prague or Breslau, with the mean diurnal oscillations at Toronto.

The meteorological tables consist of the two hourly observations on every day of the year, except Sundays, of the barometric pressure, the standard and wet ther-

mometers, the humidity of the air, and tension of the atmospheric vapour, and a meteorological journal of six-hourly observations of the dew point, the direction and force of the wind, the weather and its phenomena, the maximum and minimum of the thermometer, the solar and terrestrial radiation, and the quantity of rain. These observations, except those in the meteorological journal, were made hourly after July, 1842.

In 1841, these observations were still further augmented by two-hourly observations on every day of the year, except Sundays, augmented to hourly observations after July, 1842, of the declination of the magnet, and of the horizontal and vertical forces, with the temperatures of the bifalar and vertical force magnets.

Attached to the larger volume, of which we have thus given a review commensurate with our space, but by no means with the importance of the subject, there is a smaller one, entitled "*Observations on days of unusual magnetic disturbance, made at the British Colonial Magnetic Observatory, under the departments of the Ordnance and Admiralty, and published under the superintendence of Lieut.-Colonel Sabine,*" the scientific editor of the preceding. This publication has been made in advance of the receipt of the observations from all the parts in which the experiments are being conducted; and it is done in the hope that their early publication, and their "comparison with simultaneous observations in other parts of the globe, may lead to the suggestion of more specific points of inquiry, than are at present apprehended, and possibly to the substitution of improved instruments and modes of observation." The four Colonial Observatories at which these experiments are progressing, are those at St. Helena, Toronto, Van Dieman's Land, and the Cape of Good Hope. But the observations recorded have principally been made at Van Dieman's Land and Toronto, two stations situated in different magnetic hemispheres, and nearly at opposite extremities of a diameter of the globe, in both of which the magnetic phenomena, whether of declination, horizontal and vertical force, or general disturbance, present a remarkable degree of uniformity.

**Diurnal Oscillation.** The first general result obtained is, that the regular diurnal oscillation does not consist in a simple movement from one extremity of the range to the other, and back, as Arago supposes for instance, but in an alternate progression and retrogression. Commencing at 2 P.M., the movement is continuous towards the East until 10 P.M., when the bar returns towards the West, and reaches at 2 A.M., a second Westerly limit. A second progression towards the East then commences, and continues until 8 A.M., being more decided in the summer than in the winter months, both in its amount, and in the precise hour at

which it reaches its limits. From 8 A.M., to 2 P.M., the return is continuous towards the West. The hours at which the alternate movements terminate, viz., the Westerly at 2 A.M., and 2 P.M., and the Easterly at 10 P.M. and 8 A.M., are indicated also, beyond actual observations, by the means of both the summer and winter half years. There appears less regularity in the periods during the night, than during the day.

The range of diurnal fluctuation appears to be, throughout, greater in the summer than in the winter months. This range is never marked with the Easterly movement, which takes place from 2 to 8 A.M., and the subsequent return. It seems to commence from mid-winter, when it is barely perceptible, and daily to increase to midsummer, when the diurnal fluctuation is greatest.

The course of diurnal oscillation at Van Dieman's Land corresponds in all its principal features with that at Toronto, with only one essential distinction, viz., that the hours of Easterly movement at Toronto, are those of *Westerly* movement at Van Dieman's Land, and *vice versa*. The diurnal range is nearly the same at both places, and there is a similar amount of irregularity in summer and winter. The alternate progression and retrogression are as distinctly marked, and the hours indicated by the turning points, or the limit of one movement, and the commencement of the other, are synchronous.

With reference to the diurnal oscillation of the vertical and horizontal forces, the following deductions have been made:—The diurnal oscillation of the latter force, consists in an alternate increase and decrease, forming two maxima and two minima in the twenty-four hours. The principal minimum, or least force, occurs at 10 A.M. in the summer half year, and at noon in the winter half year. The principal maximum is at 4 or 6 P.M., except in midwinter, when the afternoon oscillation is so much reduced in amount, that the other maximum which occurs throughout the year at 6 or 8 A.M., becomes in the months of December and January the principal maximum. The second minimum takes place between 10 P.M., and 4 A.M., during which the force is nearly stationary. The diurnal oscillation of this force appears greater in summer than in winter.

With reference to the former, or the vertical force, the conclusions arrived at are, that the maximum intensity takes place at 6 P.M., and the minimum at 2 or 4 A.M. A second maximum at 8 A.M., and minimum at 10 A.M., are also traceable in some of the months. All variations between the actual position of the bar at any hour, and the normal position at the same hour, (as deduced from the observations made, and recorded, and verified, by monthly means, as to induce these to be

regarded as normal positions,) must be set down as the effect of disturbing causes.

**Magnetic Disturbance.** A comparison of the observations at Van Dieman's Land and Toronto, exhibits some connexion between the disturbances of principal magnitude. Generally speaking they are inferior in amount, both in the horizontal force, and in the declination. The fluctuation from one hour of observation to the next, on the average of the whole year, is at Toronto, of the declination, 3.99, and of the horizontal force 000.86. At Van Dieman's Land, they are, respectively, 2.02, and 000.54. The terrestrial magnetic intensity is nearly the same at both stations, the inclination is  $70^{\circ}40'$  at Van Diemen's Land— $75^{\circ}10'$  at Toronto. These assimilations, or, perhaps, more correctly speaking, coincidences, are certainly remarkable, when we reflect on the geographical relations of the two stations of observation, and go to demonstrate that the cause productive of such effects must be uniform in its force and action, and be entirely uninfluenced by any of the ordinary agents which are usually regarded as operating upon, or influencing the climate of a country. Not the least remarkable phenomenon which has received elucidation from these widely dispersed stations of observation, is the great fact, that unusual magnetical disturbances, observed at one station, have also prevailed at, at least, two others; the disturbances being observed, simultaneously, at Prague in the interior of Europe, at Van Dieman's Land, and at Toronto, though modified in intensity, in the particular time in which the action was greatest, and in the element most affected. The connexion, however, appears most distinct between Toronto and Van Dieman's Land. If twenty or thirty of the most disturbed days be selected from both the stations, the days will be found, for the most part, the same at both; and the three days of most remarkable disturbance at Van Dieman's Land, viz., the 22d March, 10th May, and 6th August, were also the most disturbed days at Toronto.

The general prevalence of these magnetic disturbances receives corroboration from the observations made at St. Helena. The mode of manifestation, however, of the magnetic disturbance, being different in low latitudes from that in high, has, probably, been the occasion of a less general notice of them, than if the operation had been uniform. In high latitudes great and rapid fluctuation, both in direction and force, appears to be the ordinary and leading characteristic. In the lower latitudes the disturbance partakes of the character of a sustained deviation, either in one direction or the other, from the normal position at the same hours.

As far as regards months of the years, the observations

rendered, point to August, September, and February, as being those in which the greatest magnetic disturbances are seen, while April appears to be a tranquil month, in both Toronto and Van Dieman's Land, from which stations these results have been obtained. As far, again, as regards season, the fluctuations are greater in the summer than in the winter months. The constancy and regularity with which this excess occurs render this deduction one of considerable importance, and demand for it a closer attention.

*Connexion of Magnetic Disturbance with Aurora.—*

Of the 24 days of principal magnetic disturbance at Toronto, on 13 the aurora was visible, varying in intensity, from a faint auroral light, to brilliancy. On the remaining 11 days the sky was either densely overcast, or heavily clouded, so that its existence could be only inferential. The same days of disturbance, however, were also days of disturbance at Prague and Van Dieman's Land, at which places it does not appear that similar atmospheric phenomena were witnessed. The aurora, has, probably, then, a local manifestation, connected with magnetic influences, pervading, to an unusual degree, whatever may be its origin and its end, the whole surface of the globe.

We cannot pass this subject from our hands, without alluding to the meritorious services of Prof. Espy, of Washington, in this department of science. Of the various meteorologists in the United States, perhaps this gentleman stands pre-eminent, and has devoted his time and attention chiefly to a development of the laws which prevail over, and guide the course of storms. The House of Representatives of that country voted, a few years ago, a sum of money for the elucidation of this branch of meteorology, under Professor Espy's superintendence. The establishment of about sixty stations of observation, distributed over the whole territory of the United States, was immediately effected, and the direction of the wind at the same hours of observation, was carefully noted in all the storms which occurred in the first few months of 1843. A report by Prof. Espy, has been presented to the House of Congress, accompanied by an elaborate and interesting series of maps. These we have never had the gratification of seeing and perusing, but our knowledge of them is derived from other and incidental sources. We have understood that there is some danger of the Legislative grant not being renewed: we sincerely hope that this may not be the case. It is only by widely scattered observations, and a very extended series of co-operative efforts, that the general laws which affect meteorological changes, can be determined. The greatest practical benefits result from their correct appreciation. The pecuniary resources of individuals are

usually inadequate to the fulfilment of such grand designs; and we regard the appropriation of public monies to such purposes, as not only strictly legitimate, but also a matter of duty, on the part of the proper authorities.

If, in thus closing our review of the valuable statistic volumes before us, and which, with the characteristic munificence of the British Government, have been presented to this Province, and deposited in the Library of the Legislative Council by his Excellency the Governor General, our readers find that we have been diffuse, we can only plead in extenuation the importance of the subject, and our desire to place the results so elaborately obtained at the command of all, and thus to compensate for the difficulties which those who feel an interest in such matters would experience in obtaining access to them.

Nor can we here forbear paying a tribute to the memory of the late Robert Armour, jun., Esq., of whose active pen, the first paper of this review, and a small portion of the present one is the production. In him, the literature of this country has lost a warm supporter, and science an ardent admirer. Anxious for the success of his journal, and desirous of contributing to its pages, he commenced the task, which an overruling Providence, "whose ways are not as our ways," did not permit him to accomplish; and it has become the painful duty of one of the Editors, to conclude, under such circumstances, the intended paper of an early, and talented friend.

## ANATOMY AND PHYSIOLOGY.

### DIGESTION AND ASSIMILATION OF SACCHARINE AND AMYLAEOUS SUBSTANCES.

By M. MIALHE.

It is now commonly believed that the alimentation of animals is effected by means of three different classes of substances, the azotized or albuminous, the fatty, and the saccharine. The researches of late experimentalists have proved that the digestion of the first is effected chiefly through the agency of the gastric juice, and that of the second by means of the bile; but nothing certain was determined relative to the saccharine or amylaceous group of substances. M. Mialhe, in a paper on diabetes, presented to the Academy of Science in April, 1844, gave the first sketch of his views on digestion of these substances, and in the present paper enters into the details. He found that the active matter in the digestion of amylaceous and saccharine matters was the saliva, and by operating on it, discovered its active principle to consist of a peculiar matter perfectly similar in properties and composition to diastase.

This active principle of the saliva, which he proposes to name animal diastase, or salivare, is a white or grayish-white amorphous solid, insoluble in alcohol, but soluble in weak alcohol or in water. Its aqueous solution is inipid to the taste, and has a neutral action on test papers. It is not precipitated by the subacetate of lead; when left to itself it speedily decomposes and becomes acid. The acid which results is the butyric, or one very closely allied to it. This



substance exerts no action on azotized substances, as fibrin, albumen, casein, gelatin or gluten, nor on the neutral ternary compounds, cane sugar, inuline, gum Arabic, and lignin. It exercises, however, a most remarkable action on amylaceous substances, as the following experiments will demonstrate.

When some of this active principle of the saliva is mixed with some starch beat up with six or eight times its weight of water, and the whole heated, the mixture never acquires a gelatinous consistence as plain starch would have done, but each grain of fecula is rendered entirely soluble the moment it becomes hydrated. After a little while the solution is not even coloured by means of iodine, but caustic potash, if heated with it, produces the intense brown coloration, which indicates the conversion of the starch into dextrine and glucose. These substances are easily separated by treating the liquor with five or six times its weight of absolute alcohol, when the glucose is dissolved and the dextrine precipitated.

Raw starch takes a longer time to be acted on by the animal diastase, but its action is greatly increased by heat. The activity of this principle is such, that one part suffices to liquify and convert into dextrine and sugar more than 2000 parts of fecula.

M. Mialhe relates in his paper the comparative experiments he made with the diastase procured from germinating barley, from which it appears that its action on starch was identically the same. M. Mialhe concludes that all hydrocarbonaceous substances serving for aliment, can only undergo the process of assimilation provided they are decomposable by the weak alkaline solutions contained in the animal humours. This is done immediately in the case of glucose, dextrine and sugar of milk, and mediately in the case of cane sugar and starch, which must first assume the form of glucose and dextrine. Those hydrocarbonaceous substances, on the other hand, which are neither fermentable nor decomposable by weak acid or alkaline humours, as lignin and mannite, do not undergo in man the digestive or assimilative process.—*Edinburgh Med. & Sur. Jour. from Comptes Rendus.*

### SECRETING STRUCTURES.

The following comprises an abstract of the chief points contained in an excellent paper by Mr. Goodsir, relative to the function of secretion as well as the structure of secreting organs.

1st. Secretion is essentially a function of nucleated cells. The cells endowed with this property of secretion possess a peculiar organic power by which they can draw into their interior certain kinds of materials varying according to the nature of the fluid they are destined to secrete. Some cells have merely to separate certain ingredients from the surrounding medium, others have to elaborate within themselves matters which do not exist as such in the nutritive medium.

2d. Though secreting cells thus differ in the nature of the fluid which they secrete, (as whether milk, bile, saliva, or other,) their structure seems to be nearly the same in all cases; each consisting, like other primitive cells, of a nucleus, cell-wall, and cavity.

3d. The nucleus seems to be both the reproductive organ by which new cells are generated, and the agent for separating and preparing the secreted material. The cell-cavity seems destined chiefly to contain the secreted fluid until ready to be discharged, at which time the cell then matured bursts and discharges its contents into the intercellular space in which it is situated, or upon a free surface, as the case may be.

4th. The mode of secretion in glands, of which the testicle of the *squalus cornubicus* may be taken as a type, seems to

be the following.\* Around the extremities of the minute ducts of the glands are developed acini or primary nucleated cells, each of which as it increases in size has generated within it secondary cells, the product of its nucleus. The cavity of the parent cell does not communicate with the duct on which it is situated until its contents are fully matured, at which time the cell-wall bursts or dissolves away, and its contents are discharged into the duct. From this constant succession of growth and solution of cells, it results that the whole parenchyma of a gland is continually passing through stages of development, maturity, and atrophy, the rapidity of which process is in proportion to the activity of the secretion. There seems, therefore, to be no essential difference between the process of secretion and the growth of a gland; the same cells are the agents by which both purposes are effected; the parenchyma of glands is chiefly made up of a mass of cells in all stages of development; as these cells individually increase in size and so constitute their own growth as well as that of the common glandular mass, they are at the same time elaborating within themselves the material of secretion, which, when matured, they discharge, by themselves dissolving away. There are a number of germinal spots or centres in a gland from which acini or primary cells are developed.

5th. The true fluid of secretion is not the product of the parent-cell of the acinus, but of its included mass of secondary cells, which themselves become primary secreting cells, and form the material of secretion in their cavities. In some cases these secondary cells pass out entire from the parent cell, constituting a form of secretion in which the cells possess the power of becoming more fully developed after being discharged and cast into the duct, or cavity of the gland.

6th. In the order of the glands, which consist of follicles more or less elongated, the following is the arrangement:—At the blind extremity of each follicle is situated a germinal spot, at the centre of which are constantly or periodically developing nucleated cells. These cells, as they become developed, tend towards the open extremity of the follicle. At first they are simple nucleated cells, but as they advance they gradually assume the characters of primary secretory cells, and contain secondary cells in their interior. When fully matured and arrived at the attached extremity of the follicle, the primary cells burst and allow their contents to pass into the branch of the duct to which the follicle is attached. Each follicle is virtually permanent, though both its contained cells and its walls are continually undergoing change, receiving development and addition at the blind extremity, being absorbed and disappearing at the other.

7th. Mr. Goodsir considers that the process of original development of glands in the embryo is identical in its nature with the growth of a gland during its state of functional activity. The blastema which announces the approaching formation of a gland in the embryo, in some instances precedes and is in other instances contemporaneous with, the conical blind protrusion of the membrane upon the surface of which the future gland is to pour its secretion. In certain instances it has been observed that the smaller branches of the ducts are not formed by continued protrusion of the original blind sac, but are hollowed out, independently, in the substance of the blastema, and subsequently communicate with the ducts. It appears highly probable, therefore, that a gland is originally a mass of nucleated cells, the progeny of one or more parent-cells, and that whether the membrane in connection with the embryo of the gland sends a conical protrusion into the mass or not, the extremities of the ducts are formed as closed vesicles.

\* Conglomerate glands in general, as the salivary glands, pancreas, &c., may be included in this class, though individual differences as to the arrangement, and other peculiarities of the cells, occur in each.

† Under this class may be included the follicular glands of the mucous membrane of the stomach, &c.

cles, and then nucleated cells are formed within them, and are the parents of the epithelium cells of the perfect organ.—*Ranking's Abstract*, vol. i.

# ANATOMY AND USE OF THE THYMUS GLAND.

On this subject we are fortunate in being able to refer to some recent researches by Mr. Simon,\* the value and importance of which have attained for them the high honour of gaining the first Astley Cooper prize. In the endeavour to place before our readers a brief abstract of this work, we shall omit the author's very concise and accurate history of the labours of former writers, and proceed at once to the discussion of the original portion of his labours.

The first appearance presented by the gland, as observed in the foetal calf, is that of a simple tube lying along the carotid vessels, and exhibiting faint traces of commencing areolar tissue. The contents of the tube at this time are granular, but do not contain any distinctly formed corpuscles. Mr. Simon suspected that this tube was not the primary condition of the organ, but that it might exist at an earlier period in the more simple form of a string of primordial cells; he has not, however, been able to verify the suspicion. He refutes the opinion of Arnold, (*Lehrbuch der Physiologie*, tom. ii. p. 265), that the thymus is a development of the respiratory mucous membrane, as well as that of Bischoff, that it is in some way connected with the thyroid gland. The development of the gland proceeds in the same manner as that which has been observed as the primordial tube of the true glands, that is to say, by the addition of diverticula, which spring from the sides of the tube. These diverticula, when they have arrived at three-fourths of a sphere, themselves give rise to secondary bulgings, which again reproduce others, until at length by the repeated occurrence of the same process, conjoined with a continued interstitial molecular increase, the organ attains the bulk and complexity of the structure exhibited by it in the mature state of the fœtus.

The researches of Mr. Simon confirm in the main the dissections of Sir A. Cooper, with respect to the existence of a central cavity; he thinks, however, that it has hitherto been supposed to be larger than it really is. They likewise accord with those of Hauksted, in reference to the period at which the thymus attains its greatest size, this being, not as is commonly supposed during intra-uterine life, but at a certain period after birth. This exact time it is not easy to ascertain, as it is probable that it varies in different instances; it has, however, been laid down as a law by the author, that its bulk is inversely as the amount of mortality and consequent exhaustion of tissue, and its duration, therefore, dependent upon the period at which muscular activity becomes established. In reference to this point, the author has arrived at the following results:—1st. During the period next succeeding birth, the activity of the thymus is remarkable; it increases considerably in size, becomes turgid with secretion, and its specific gravity is lowered by the greater fluidity of its contents. This first growth is far out of ratio to the general increase of the body. 2nd. For several months it continues to increase at a diminished rate, and merely in proportion to the general growth of the body; its further enlargement ceases about two years after birth. 3rd. From this time, during a *very variable* number of years, it remains stationary, and, supposing the individual to be adequately nourished, gradually assumes the structure of the fat. 4th. The duration of its decay, and the epoch of its entire vanishing are still more uncertain; about puberty, it seems in most cases, to suffer its chief loss of substance, and to be reduced to a vestigiary form.

The first appearance of this organ before birth is supposed by anatomists to be as early as the fifth week after con-

ception, but in the tenth week of pregnancy it is sufficiently perceptible to the naked eye. It, at this time, exhibits a distinct tubulo-vesicular structure. The third chapter of the work contains a description of the mature gland. Its mode of formation has been already alluded to; it remains only to mention the intervascular structure and the contained fluid. The intervascular tissue is a prolongation of the wall of the original tube, and consists of an indescribably fine membrane, over which a close capillary network is spread for the purpose of supplying materials for secretion. This secretion consists of a fluid, in which, as was discovered by Hewson, microscopic corpuscles were seen to float. These corpuscles are circular discs of nearly the same size as the coloured particles of the blood. Their average diameter is 1-3630 of an inch. They are marked by minute dots which are supposed to be molecules of fat in combination with fibrin or solid albumen.

The author gives three separate chemical analyses of the thymus fluid, all of which concur in demonstrating the error of the opinion that it was essentially a highly carbonaceous product. It is proved by them on the contrary that the fluid contains no more carbon than enters into the composition of muscle and blood.

The nerves of the thymus are derived from the inferior and middle cervical ganglions and from the cardiac branch of the pneumogastric nerve.

In the comparative anatomy of the gland, the author's researches have been very extensive, but our space will not allow of a repetition of the different tribes of animals in which he has carried on his investigations; we shall content ourselves with giving the following summary of the results to which they lead. 1st. The *presence of the gland* is co-extensive with *pulmonary* respiration. 2nd. Its shape and position are variable and unimportant. 3rd. Its *size and duration* are, generally speaking, in proportion to the habitual or periodical activity of the animal. 4th. Where it remains as a persistent organ (as in the hibernating tribes), it is one of the general reservoirs for the accumulation of nutritive material.

In further prosecuting the developmental anatomy of his subject, the author next passes in review the maphological history of the true glandular system, with which he contrasts that of the thymus and its analogues, the thyroid, suprarenal glands, and the spleen. The principal difference between the two orders of organs appears to consist in the ultimate arrangement of their secreting cells, that of the true glands being distinctly cellular, that of the glands without ducts, consisting of the cytoblast alone, the involving cell-structure being only of the exceptional formation. It is a curious fact, however, that in those animals in which the thymus becomes a permanent organ, the nucleus, instead of being simply surrounded by aggregate molecules, as in the temporary state of the organ, is converted into a perfect cell. These different points are rendered plainly intelligible by the plates with which Mr. Simon's work is liberally illustrated.

We now pass on to the most remarkable part of the work, the physiology of the gland. It is thus stated by Mr. Simon:—

“It secretes into a closed cavity certain particular elements of nutrition, which are deposited differently under different circumstances, viz:—1st. In most animals it occurs only temporarily; the secreted matter then presents itself under a *fluid form*, and closely resembles the liquor sanguinis in ultimate chemical composition. 2nd. In some animals, after discharging this temporary function, it assumes one of greater permanency, the sequestration of material in the form of solid fat. In both cases, however, though peculiar, the function is especially the same, and consists in the laying by of nutrient material. How this is used up, Mr. Simon next proceeds to show. Here, however, we are called to notice a certain circumstance which is co-existent with both

\* *Physiological Essay on the Thymus Gland*. 4to. London: 1845.

the temporary and the permanent function of the gland; viz., that in both, *waste of tissue* is at a minimum. In the younger animal, muscular activity, which mainly contributes to this waste, has not commenced; in the hibernating animal it is suspended. Now the waste of tissue being at a minimum, the pabulum for the support of the respiratory process must be supplied from some other source."

This source Mr. Simon declares to be the nutritive matter laid up in the central cavity of the thymus as in a reservoir, and he therefore assumes the office of that gland to be that of sequestering nutritive matter, whereby it becomes "a sinking fund of nourishment in the service of respiration."—*Ranking's Digest*.

## SURGERY.

### ON THE USE OF THE PIPER ANGUSTIFOLIUM (MATIO) IN CERTAIN HÆMORRHOIDAL AFFECTIONS.

By Dr. O'FERRALL.

There is a form of disease, engaging the verge of the anus, and a portion of the mucous membrane above it, in which I have found this vegetable astringent to produce unequivocal and rapid amendment. As the matico will, probably, be much employed, and as it may occasionally disappoint our expectations, we should endeavour to observe and define the cases, to which its properties bear a therapeutic relation.

The condition, to which I allude, presents some characters in common with the "vascular tumour of the rectum," in which the nitric acid recommended by the late lamented Dr. Houston, is so often useful. But it does not, like the vascular tumour, require the nitric acid,—it is not, like the inflamed varix, much influenced by leeching—and the operation for fissure, is unnecessary for its cure.

It appears to be the simple result of chronic inflammation of the integument, at the verge of the anus, and of a portion of the mucous membrane above it, the latter assuming the appearance of that hypertrophy, which is usually termed the villous state.

When examined externally, the verge of the anus presents a considerable swelling, of a purple colour, and divided into separate tumours or prominences, by fissures or folds of the skin. When these tumours are separated, (which gives exquisite pain if hastily done) the bottom of the clefts is exposed, and the cuticle is there found to be abraded, and the surface covered with a sero-purulent discharge. These fissures are, sometimes deep, and penetrate through the cutis to the cellular tissue beneath. The consistence of the swellings is firmer than that of the true hæmorrhoid in the recent state, but wearing its purple tint. They cannot be emptied by pressure. They are, on the other hand, less firm than the hæmorrhoid in the state of chronic consolidation. The cellular tissue of the part appears to be in a state of œdema, and covered by a thickened skin. Where the parts are forced or drawn out, the mucous membrane is found to be tumid, vascular, and apparently deprived of its epithelium; it is easily made to bleed.

This condition of the mucous membrane, does not extend very far upwards, and its prominence is little, compared with that of the vascular tumour of the rectum. It is not protruded at stool, and therefore, perhaps, yields little blood, compared with what oozes from the former when occasionally strangulated by the sphincter.

These are the anatomical characters of the condition, in which the matico will be found to succeed. It appears to consist of chronic inflammation of the inner and external integument and cellular tissue, the prominence of the skin throwing it into folds, the clefts of which are apt to ulcerate,

and, when stretched during defecation, may occasion pain, which resembles, in some respects, that of fissure. I have not seen any trace of true varix, internally or externally, in this affection. The purple tint appeared to depend on congestion of the extreme venous radicles only.

This complaint begins gradually, and is chronic in its formation, but at length becomes so painful, that the erect or sitting posture, can scarcely be borne. There is pain in defecation, which persists for a short time only afterwards. There is occasional, but not constant bleeding, and only in trifling quantities, but there is constant painful uneasiness, with sense of weight, increased by walking, and at length rendering the erect position almost intolerable.

I have seen this state, in several persons, at, or beyond, the middle periods of life. Both sexes are liable to it. It is called "piles," but leeching and cold applications produce only temporary benefit, and warm applications have been found to increase the morbid sensibility of the parts.

The mode of employing the matico, in this affection, is in the form of ointment, or lotion. Dr. Young of Winslow recommends the ointment in "external hæmorrhoids." In the affection here described, the decoction appeared to me to succeed best. A dossil of lint, soaked in a decoction, made by boiling two drachms of the leaves in six ounces of water, is to be introduced within the anus three times daily; another piece of lint, in form of a compress, similarly charged, is laid outside, and covered by oiled silk: the whole is supported by a T bandage.

If the resemblance to vascular tumour should induce the application of nitric acid in this affection, it will be found to have done too much. The tumour of the mucous membrane, is too slight to bear the escharotic, and the patient will be worse than before. It may, therefore, be found practically useful, to describe a state of parts in which the matico is really an innocuous and adequate remedy.

In the following case, which requires no subsequent comment, one of the instances of its efficacy is afforded:—*Chronic Painful Swelling of the lower extremities of the Rectum—Superficial Fissure—Treatment by Matico—Cure.*

J. Walsh, aged 30, a servant, admitted into hospital August 24, 1845.

He states that he is suffering severely from "piles," under which he has laboured for a length of time; latterly, however, within the last month, the pains have become very excruciating, being greatly aggravated when he goes to stool. He has a most anxious, distressed expression of countenance, avers that he has not closed his eyes in sleep for several nights, and earnestly implores that something may be speedily done to relieve him. Upon examination, several large, swollen, and intensely painful tumours, of a purple hue, are found to surround the anus; there are two or three fissures with the usual cracked edges and ulcerated bases, and the opposed surfaces of two of the tumours have become red, and denuded of cuticle. Upon being desired to force down, the mucous membrane of the gut is protruded of a highly red and inflamed appearance, and presenting very much the character of "vascular tumour;" bowels generally confined, has never had much hæmorrhage from them.

August 24th—

Electuarium Lenitivum,  
Nocte, maneqe, ad alvi solutionem.

R.

Folior: Piper: Angustifol: drachmas duas,  
Aquæ Puræ, uncias sex,  
Coque s. a. fiat. lotio.

a piece of lint, moistened with [the lotion, to be kept constantly applied, internally and externally.

26th.—The tumours are smaller, and much less inflamed. Continue.

30th.—Tumours have become quite flaccid, and of a natural colour; the pain has entirely left him, and he sleeps perfectly well at night. The application was continued for some further time, and he then left the hospital perfectly well.—*Dublin Hospital Gazette.*

## RESEARCHES ON WOUNDS OF BLOOD-VESSELS.

By M. AMUSSAT.

M. Amussat, before stating the conclusions to which his experiments have led him, pointed out the difference between the method he pursued and that followed by former experimenters. Hitherto the vessels experimented on had been always isolated from the adjacent parts, but he always inflicted a simple open wound, without any previous dissection, so as to place the animals operated on in exactly the same position as a man who receives a wound. M. Amussat's conclusions are as follows:—

1. The spontaneous clot that plugs a completely divided artery in a large transverse wound forms very quickly, in fact under the eyes of the experimenter.

2. This clot consists of the fibrine of the blood, and is supported by the external cellular coat of the artery or the fourth membrane, and not by the sheath of the vessel, as would appear to be the case from a superficial examination and the ordinary description of the structure of arteries.

3. The central cavity in the spontaneous clot affords an important character for the discovery of an artery marked by a clot.

4. Contrary to the opinion of Jones, Beclard, &c., an artery possesses in itself the power of arresting hæmorrhage, as a clot may form at the extremity of an artery, projecting from the surface of a wound.

5. The clot is larger and firmer, the tenser the artery and the cellular membrane were at the moment of its division. The practical deduction from this fact is, the necessity of putting arteries considerably on the stretch, so as to place them in circumstances favourable for the formation of firm clots almost analogous to those formed in arteries lacerated by avulsion.

6. Some of the results may, perhaps, be valuable in a medico-legal point of view. Thus, if both carotid arteries are transversely divided together in a living animal whose spinal marrow is uninjured, clots always form in the cardiac extremities of the arteries, which are bulky in proportion to the greater or less tension of the neck and of the arteries at the moment of their division.

7. On the contrary, if the carotid arteries are severed one or two minutes after an animal has been killed, either by a blow on the head, by simple division of the spinal marrow, by strangulation, or by asphyxia, clots do not form in the cardiac extremities of the carotid arteries; or if they do form, they are small, quite unlike those that occur in vessels which are divided in a vigorous living animal that dies of hæmorrhage.

8. It is therefore of the utmost consequence to examine the cardiac extremities of divided arteries in certain medico-legal cases; as we can thence conclude with much more certainty than from an examination of the other soft parts, whether they were divided during life or after real or apparent death.—*Dublin Medical Press.*

ferential diagnosis. Discuss the advantages and inconveniences of tracheotomy in its treatment.

Prior to the proposition of this question the attention of M. Valleix had been drawn to the subject during the composition of his much esteemed *Guide du Medecin Practicien*. Although œdema of the glottis was described by Bayle in 1808, its right of reception into our nosologies as a distinct affection has been frequently contested: and certainly of the forty recorded cases collected by M. Valleix for the present essay, there are several to which this designation can be ill-applied. Indeed, as will shortly be seen, the description of our author embraces all inflammatory affections of the upper orifice of this tube capable by their resulting depositions of obstructing the admission of air. Practically this is of little consequence, since the same principles of treatment are applicable. He adds three cases from his own practice, and refers to two occurring in children, as reported by MM. Rilliet and Barthez in their work. To proceed with our analysis.

*Anatomical Lesions.*—The author finds the cases in which the infiltration consisted of serum only to have been comparatively few in number, in three-fourths of those recorded pus existing also. The cases of simple infiltration generally arose in the progress of a general anasarca, as in that supervening upon scarlatina. The folds of the mucous membrane extending from the epiglottis to the arytenoid cartilages, are especially the seat of the disease; and in three cases only have the *cordæ vocales* themselves been noted as presenting a certain degree of infiltration. The quantity of fluid effused is sometimes sufficient to produce enormous tumefaction, but few observers have supplied any exact details upon this point. The superior orifice of the larynx then presents two roundish pads, more or less projecting, and according to their size, offering a greater or less obstruction to the passage of air. They have a tendency to sink down into its aperture, when the larynx is open, and thus, as M. Lisfranc proved by experiments with a bellows, air obtains a far easier egress than ingress, the pads separating in the first case, and approaching each other when air was forced from above downwards. In three cases only has the *mucous membrane*, near the infiltration, been found in a healthy condition. In a third of the cases it was red, and in a sixth ulcerated. In one case, there was ramollissement, and in another gangrene. In sixteen cases more or less serious lesions of the *cartilages*, especially the cricoid, were found—the infiltration in fact being produced in consequence of the inflammatory action of the mucous membrane, induced by the carious, or other diseased state of the cartilages. The *epiglottis* was infiltrated in four cases, and in eight it was notably thickened. In one case it was ulcerated, and in another covered with a false membrane. In more than half the cases lesions of the *pharynx* were observed, such as coloration, ulcers, or abscess. It thus appears that œdema hardly if ever occurs without being preceded by organic lesions of the adjacent parts.

*Causes.*—The *exciting* causes are therefore the lesions just alluded to; but the *predisposing* ones have for the most part been imperfectly observed by authors. Age seems to exert some influence. Of 38 cases, four only occurred in children less than ten years old; and the greatest number were observed to occur between 18 and 30—the period in which phthisis, the most frequent cause of ulceration of larynx, so often the precursor of œdema, is most prevalent. So, too, this is especially the age for typhoid fever, during the convalescence of which œdema glottidis often occurs. The *sex* has been observed in 40 cases, of which 29 were males and 11 only females. This does not militate against the statement of phthisis being so frequently a predisposing cause; for, although that disease is most prevalent in women, M. Louis has observed that ulcerations of the air-passages are three times more frequent in men than in women. The effects of temperament, constitution, and

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON ŒDEMA OF THE GLOTTIS.

By F. VALLEIX.

The French Academy of Medicine proposed the following subject for their prize. *State the causes of œdema of the glottis, describe its progress, successive symptoms, and dif-*

seasons, have been too seldom observed to allow any conclusions concerning them to be drawn. As to the *prior state of health*, in 4 cases out of 40 only did the disease show itself as a suffocative angina, the patients being in good health at the time. In ten instances the affection appeared in the course or convalescence of typhoid, or other severe form of fever; and in 12 in the course or convalescence of various other diseases, as pneumonia, scarlatina, erysipelas, &c., &c. In nine cases it followed laryngeal phthisis, in one cancer, and in two syphilis of the larynx. In two cases the state of health was not indicated.

"When an inflammation is developed within, or only even near to, a part of the body where there is abundance of cellular tissue, we soon observe it become more or less engorged with serum or sero-purulent fluid, according to the violence of the inflammation. This is seen to be the case in the subcutaneous cellular tissue in inflammation of the skin; as also in the palpebral cellular tissue, when there is inflammation in the vicinity of the eye, or in the eye itself. This is also seen after a simple section of the prepuce, when the cellular structure often becomes infiltrated in a very notable manner. This effect may be observed in subjects otherwise in good health, but it is much more frequently produced when they have been enfeebled by prior disease, and the blood has become impoverished; or there is a tendency to general œdema. We find here an explanation of what occurs in the larynx when a violent angina affects a healthy subject, and when even a slight angina, having its principal seat in the larynx or pharynx, attacks a subject affected with, or convalescent from, another disease. But to pursue the comparison: if an ulcer is developed with a certain degree of irritation in one of the portions of the body already mentioned, its edges are seen to swell, and the irritation spreading farther and farther, the neighbouring cellular tissue is infiltrated. This effect is remarked in chronic ulcers, when by some cause they become much irritated, as well as in acute ulcers. The same thing is seen passing around an abscess, whether a simple one, or one connected with caries of bone. In studying the facts I have now indicated, one may see, so to speak, demonstrated on the surface of the body, the various phenomena which terminate by producing the serous or sero-purulent infiltration of the larynx, and further, we see the reason of the predilection the œdema assumes for the aryteno-epiglottic folds of mucous membrane, the cellular tissue being here much less compact than elsewhere."

*Symptoms.*—Pain and tenderness in the region of the larynx or pharynx, with or without difficulty of deglutition, has been noticed in nearly all cases. The *cough* and *expectoration* have frequently not been even remarked upon by authors, and are only of a secondary importance. The change of voice is a very frequent, if not constant, sign. "It is at first raucous, then marked, then low, becoming in most cases extinguished, or almost so, towards the end of the disease." In one case alone it has been designated as croupal." Although *dyspnœa* is usually a principal symptom, it is in some cases not very marked. In 35 cases out of the 43, however, it has become at times suffocative. As observed by Bayle, the difference of the difficulty in inspiration and expiration is frequently very great, the former being far more noisy and laboured than the latter. In most cases, the inspection of the *fauces* seems to have been neglected; but in all the 13 in which they were examined, lesions of the pharynx, to a greater or less extent, were observed. It is, however, sometimes difficult to get the mouth sufficiently open. The examination with the finger, too, seems to have been seldom practised, although, in those cases in which it has been done so adroitly, the tumefaction of the glottis has been felt satisfactorily. The digestive organs are not usually much disturbed, but there are great fever, thirst, and restlessness. The countenance exhibits marked change, especially during the paroxysms.

*Progress and termination.*—The debut of the disease is hardly ever sudden, but once developed, it is often very rapid in its progress. When it results from a chronic lesion of the pharynx, its first announcement may be a suffocative paroxysm. When it is produced by simple inflammatory action the progress is rapid in proportion to its intensity, and it is then more uniform and less interrupted in its progress. In lesions of the larynx the paroxysms are more distant, and separated by intervals of calm. In some cases the paroxysms are truly dreadful to behold, of frequent occurrence, and long duration. Of the forty cases alluded to only nine were cured. Three only died during the existence of the paroxysm, and seven during a calm interval, in which all seemed going on well. In the other cases, death, although not actually occurring during the paroxysm, did so in the condition of asphyxia, which had become permanent. One perished during the operation of tracheotomy, one ten hours, and another 52 hours, after its performance. The duration of the affection is very variable, as the circumstances attending it are so different; and death at periods varying from a few hours in one case, to 26 days in another, has been observed.

*Diagnosis.*—This, which would seem easy enough, has nevertheless in some cases been attended with difficulty. If, with the precursory symptoms already mentioned, and paroxysms of suffocative dyspnœa, we are able to feel an œdematous swelling at the top of the larynx, by means of the finger passed rapidly into the mouth, this being widely opened, the diagnosis is almost certain; not quite, indeed, for some tumours, in the vicinity, have simulated these œdematous swellings, as may collections of matter in the pharynx or œsophagus. Other affections of the larynx itself may render the diagnosis also obscure, as laryngitis terminating in suppuration, the seat of the formation of matter being the posterior walls of the larynx, and generally just above the cricoid cartilage. In one such case only was the pus found in the aryteno-epiglottic folds—the usual seat of œdema. The suffocative paroxysms in this case are much less severe. In *false croup*, we observe that children are almost always the subjects, the symptoms nearly disappear in the intervals of the paroxysms, when the voice becomes almost natural, and no tumefaction is found on the exploration of the larynx. In *croup*, children are also the subjects, and false membranes are usually found in the pharynx. The only pathognomonic sign of œdema is, however, the presence of the œdematous tumours at the superior aperture of the larynx. Œdema glottidis is sometimes *latent*, and M. Louis reports two or three cases in which the symptoms did not manifest themselves until just prior to death—these patients being already brought into a dying state by the severity of other long-continued disease.

*Prognosis.*—This is of the gravest character, since whatever is done, almost all die. The less the lesion which has given rise to the œdema has disorganised the tissues, the more chance there is of a cure being effected, if active means are employed.

"In pronouncing upon the degree of gravity from the symptoms observed, each case must furnish its own elements for decision. In a general manner only we can say that if the strength yet continues, the pulse is regular and strongish, if the features are not much changed, and the face not livid; if the efforts to enable the air to penetrate into the lungs are yet energetic, and if the wheezing or other noise is heard in the larynx with power enough to show that the air does, although with difficulty, penetrate into the lungs, we may have hopes that the disease will terminate favourably. If, on the other hand, the patient is prostrated; if his features are changed, his lips blue, his eyes haggard, his face cadaveric, as described by Bayle, if he has no longer the power of making the same respiratory efforts he did before, if the inspiratory *sifflement* has lost its energy, without respiration becoming deeper and easier, we

must not allow an apparent and deceptive calm to deceive us; for the patient is devoted to a speedy death."

**Treatment.**—Of the whole number of cases collected, nine only were cured. General bleeding has been only put into force in seven cases, in some of which it has produced at least temporary benefit. Leeching has been tried in fifteen cases, and in the same number have blisters been applied to the neck. In two cases related by the author, blisters and emetics have been simultaneously employed, and a cure resulted in both. In the one, the œdema came on in the course of a syphilitic laryngitis. Emetics were given, a large blister applied to the neck, and two others to the thighs. In the other case the œdema came on in the course of phthisis. Incision, or tearing of the œdematous tumours, and thus lessening their size, has been advocated by some, and the operation of tracheotomy by others. Of the 40 cases here reported, this has been practised but nine times, and in three of these life was saved. It must be remembered that the operation has been delayed until the last moment, when asphyxia was imminent, and yet out of the nine cases it has succeeded three times, while in the 31 remaining cases six cures only have resulted. Moreover, in only one case was the disease simple and primary, the others occurring in the course of an acute disease, or of chronic laryngitis. To be successful, the operation must not be delayed until the last moment, but should be put in force as soon as other methods have been found unsuccessful; but it should not be performed in those patients in whom the original disease is about terminating their career.—*Med. Chirurg. Rev.*, July, from *M.moires de l'Academie Royale de Medecine*, tom. xi., 1845.

## CHEMISTRY, MATERIA MEDICA, AND PHARMACY.

### METEOROLOGY.

Meteorology is a subject which bears very closely on Medicine. It is perhaps less studied in the Medical Profession than it deserves to be. It is not merely a study of speculative interest, as bearing on the possible explanation of the mysterious effects exercised over the prevalence of diseases by those agencies which have been termed Atmospheric and Epidemic Influences, Epidemic Constitution of the Year, and the like; it is also a study of practical use. For nothing else but the study of Meteorology can give the proper interest to the nicer varieties of climate, among those places to which invalids from this country are sent—a kind of knowledge far more difficult of attainment than is commonly believed—and in the application of which errors cannot but be sometimes committed, even by those who have had the best opportunities and have taken the greatest pains to make themselves acquainted with the subject.

These remarks have been suggested to us by a Work which has recently appeared, entitled "A Complete Course of Meteorology, by L. F. Kaemtz, Professor of Physics in the University of Halle," a translation of which, by Mr. C. V. Walker, is before us. A work of this kind, namely, a Manual of Meteorological Facts, is not well adapted for a review in our pages; but we propose to extract a few passages, such as may probably possess some interest for our readers:

**"Causes of Atmospheric Electricity.**—After having discovered that storm-clouds were highly charged with electricity, it was perceived that rain was almost always electric, and that there was electricity in the air, even during the calmest weather; and the question of its origin presented itself. Friction was then the only known productive cause of electricity; it was thought that that of the atmosphere proceeded from the friction of masses of air against one another. Notwithstanding the objections of

several philosophers, I do not think that this cause is completely null: when we shake in the air a piece of silk, it is electrified; why then should it not be the same with two masses of air? If the temperature, moisture, &c., of the two masses are the same, there will be no production of electricity, in the same way that there will be none if we rub two perfectly similar rods of resin together. But, as soon as one of them becomes warmer than the other, the cooler becomes positive, the warmer negative: a law verified for all bodies of the same nature when rubbed against one another. Thus, then, the upper masses of air would be positive, the lower ones negative.

"Chemical actions, which are constantly taking place in the atmosphere, are infinitely more powerful; we shall place evaporation in the first rank. Volta first showed that evaporation produced electricity; de Saussure confirmed this opinion. But M. Pouillet has described the details and conditions of the phenomenon. Pure and simple evaporation does not produce any electricity, provided there be no chemical decomposition: if distilled water evaporates on platinum plates, there is no production of electricity; but if we add portions, however small they be, of salts, acids, &c., then there is a production of electricity as soon as the vapour of water is evaporated from the bodies to which it was united. The vapour is positively electrified, the vessel negatively; now, as the earth incessantly emits vapours, and the water in nature always contains foreign substances in solution, the vapours rise charged with positive electricity, whilst the earth preserves negative electricity.

"Combustion is another productive cause of electricity. When coal is burning, a current of carbonic acid escapes positively electrified, whilst the coal remains negative. The atmosphere, therefore, contains all the electricity that results from combustions made on the surface of the earth. Indeed, when plants spring up, the carbonic acid they exhale carries off the positive electricity, whilst the vessels through which the gas escapes remain charged with negative fluid; the same thing probably takes place during the life of the plant, from whence results a great proportion of the positive electricity which vegetation pours into the atmosphere."

"**Electricity during Serene Weather.**—When the sky is clear and without clouds, a sensitive instrument placed in an open place almost always indicates positive electricity; it only becomes negative in the case where there are distant storms. But this positive electricity varies in intensity; passing clouds, puffs of wind, modify it in a few seconds. The causes of these changes have not been as yet sufficiently studied. If we always observe at stated hours, we find in our countries the existence of a curve, the elements of which de Saussure and Schubler have endeavoured to determine.

"At sunrise the atmospheric electricity is feeble; it continues to increase as the sun rises and the vapours are collecting in the lower regions of the atmosphere. This increasing period lasts in summer till 6 or 7 o'clock in the morning; in the spring and autumn, till 8 or 9; and in winter, till 10 or 12 o'clock in the day. By degrees the tension attains its maximum; during this time the lower regions are filled with vapours, the humidity of the air increases, and the hydrometric tension is stronger than in the morning; in the cold season there is often fog. Generally electricity decreases immediately after attaining its maximum, at first rapidly, then more slowly. The visible vapours of the lower strata disappear, the fogs disperse, the atmosphere becomes clear, and distant objects seem to approach the spectator. Towards 2 o'clock in the afternoon, the atmospheric electricity is very feeble, and scarcely stronger than at sunrise. It continues to diminish till about two hours before sunset; in summer, till 4, 5, or 6 o'clock in the evening; in winter, till 5 o'clock. Its minimum



lasts longer than its *maximum*. As soon as the sun approaches the horizon it again begins to advance, increases sensibly at the moment of sunset, goes on increasing during twilight, and attains a second *maximum* an hour and a half or two hours after sunset. Then vapours form in the lower regions of the air, damp increases, and the night-dew falls. This second *maximum* usually equals that of the morning, but it continues a shorter time, and the electricity decreases slowly till the next morning."

"*Electricity of Dew and Fogs.*—When the vapour of water is precipitated into the atmosphere, a greater or less quantity of positive electricity becomes free. However, whether the augmentation of electric tension is due to the damp air permitting the more distant particles to act on the electrometer, or whether the electricity becomes free through the precipitation of vapours in the same manner as latent heat, is difficult to decide. Indeed, electricity is very strong when the dew is deposited; if this is abundant, then the *maximum* of the diurnal period takes place towards evening. The signs of electricity are also very marked during fog; all observers have acknowledged it, and de Saussure affirms that he never saw a fog without a notable development of electricity. In general, it is positive and stronger in winter than in summer, according to Schubler's observations. The electricity is stronger as the fogs are thicker; they rarely give signs of negative electricity: yet these phenomena are too little known for me to be able to enter into further details.

"The received opinion, on the increase of electricity during the formation of fogs, deserves to be submitted to new experiments. We must not forget that but few experiments on atmospheric electricity exist. For whole months, meteorologists do not observe the instruments. If a storm arises, or rather, if the straws of the electrometer diverge strongly, then they look at them and note their indications. But we cannot conclude from these indications whether the divergence was strong or weak relatively to the mean divergence. From my own observations at Halle, I should be tempted to believe that, during a fog, the electricity is weaker than in clear, and damp weather. On the Alps, I have always found, under these circumstances, a strong positive electricity; but as soon as clouds approached, its intensity diminished, and it was almost null when I was surrounded by clouds: at Halle, the same remarks. It is for experiment to decide if these are exceptional facts, resulting from the fact that electricity easily flows into the earth because air is damp, or if it is the normal and usual state.

"*Electricity during Rain.*—When rain or snow falls from the upper regions of the atmosphere, there is, at the same time, a production of a quantity of electricity, more or less strong: it is only during mild and continued rains that we observe no traces of it: in this case the electricity is sometimes positive, sometimes negative. According to Schubler's observations, there are, in South Germany, 100 positive for 155 negative rains: according to those of Hemmer, at Mannheim, 100 positive for 108 negative: in the two series, the latter are the more common. The direction of the wind is not without influence over these differences. If we designate by 100 the number of positive rains with each wind, we find the following numbers for the number of negative rains with the same winds:—

	SCHUBLER.	HEMMER.
N.	91	52
N.E.	109	75
E.	166	95
S.E.	175	95
S.	260	101
S.W.	232	117
W.	145	105
N.W.	128	67

"With the north winds the number of positive rains is, therefore, relatively greater than with the south winds; the difference of the two numbers obtained by Schubler and Hemmer are due to local circumstances and climacteric conditions, which are not the same. To sum up: their observations prove that, during the course of one year, most of the rains are positive, whilst they are negative in another. Thus the annual results may be very different from the general mean.

"What is the origin of this negative electricity? Schubler, Tralles, Volta, and others, explain the phenomenon by the evaporation of drops of water: when they traverse dry air, they partially change into vapours, which carry away the positive electricity, whilst the drop remains in the negative state. This hypothesis is confirmed by the fact of observation, that in the neighbourhood of cascades, where a great many drops are thrown into the air, we always find traces of negative electricity, more or less marked. Several experiments made by Belli render this hypothesis improbable. If we insulate an artificial fountain, such as Hero's fountain, and place it, in fine weather, in an open place, where the atmospheric electricity is strong, the drops will be negative and the vase positive: if the experiment be renewed in dry weather, on points where there are no signs of atmospheric electricity, there will be no electricity either on the vase or the drops, although the evaporation is the same: it is not then to evaporation, but to induction, as Belli very well remarked, that the electricity is due. When the fountain rises towards a clear sky positively electrified, it acts by induction; the fountain is positively electrified below, and negatively above; but, as soon as the air is without electricity, the action by induction no longer exists, and there is no trace of electricity. It is the same with a cascade; it is negatively electrified above, positively below; the vitreous electricity flows into the earth, the other remains united to the liquid drops.

"Thus, then, although evaporation may develop negative electricity in the drops which fall, the action by induction is much more energetic: clouds have often a strong positive electricity, whilst that of the earth is negative. If there are two strata of clouds in the sky, and the rain falls principally from the lower, both are positively electrified; but the electric state of the lower is modified by that of the earth: it becomes positive in its lower surface, and negative in its upper; the rain is then positive. Soon, not only does the lower face of the cloud become neutral, but also the earth; thus, at the end of a certain time, not the slightest indication of electricity is found until, when under the influence of the upper cloud, the lower one becomes charged with a great quantity of free negative electricity. The drops which fall will then be negative: but, if a breeze condenses anew the vapour of water in the cloud, then we find once more that the drops of water are positively electrified.

"Every time I have been able to follow this phenomenon, I was assured of the action of the upper cloud upon the lower. In other cases, the cloud acts on the drops of rain themselves, and changes their electric state. This being well understood, the influence of the winds over the electric state of the rain is easily deduced.

"From what we have previously seen, the origin of rain from north and south winds is very different. If, in a clear sky, the temperature rises for several days, the barometer begins to sink, a few *cirri* form in the high regions, at the same time that the south wind becomes predominant; the *cirri* extend, the sky becomes whitish, and positive electricity increases in its lower strata. The barometer continuing to fall, *cumuli* are formed in the lower parts, and the rain begins. At the moment when they are produced, the *cumulus* and the rain are both positively electrified. Soon negative electricity accumulates at the upper part of the *cumulus*, and the rain itself finishes by becoming negative

but as, by the north winds, there is often but one stratum of clouds, this action by induction no longer occurs, and the rain is more frequently positive. In winter, the snow falls generally from a single stratum; it is almost always positive."

#### DISCOVERY OF NEW ELEMENTARY BODIES.

Professor Henry Rose, professor of Chemistry at Berlin, has a few months ago announced the discovery of two new elementary bodies of a metallic nature, in a mineral—the Tantalite of Bavaria. He has proposed for them the names of Pelopium and Niobium. These, together with Lanthanium, observed by Mosander, and more recently of Didymium, discovered by the same chemist, increase the number of bodies, in the meanwhile recognised as elements, to 58.

#### ABSTRACT OF A MEMOIR ON THE LEECH COMMERCE OF FRANCE.

By M. CHEVALIER.

France has been for some time supplied with leeches for medical use from Hungary, Turkey, Wallachia, Russia, and Egypt. This branch of commerce is chiefly in the hands of large dealers, and, indeed, at the present time, it is carried on almost entirely by a single company at Strasbourg, where the animals are kept in large ponds for the supply of retailers. They are conveyed from their native marshes to the French frontiers overland, in ten or twelve days, by means of spring waggons, in which they are disposed in bags from 100 to 120 in number, and each weighing about eight pounds avoirdupois. They are watered occasionally on the way. But, contrary to what has been often alleged, they are not fed either before or during the journey; for in that case the mortality on the way is greatly increased. The supply has been falling off for some years—the annual importation into France prior to 1834 having been 44 millions, while now it is only 17½ millions; and the price has risen in the same ratio as the importation has diminished, namely, from three-halfpence each to fivepence. The source of supply is therefore obviously becoming exhausted.

In French trade five denominations of leeches are distinguished, viz., great leeches, cow-leeches, middlings, little-middlings, and thread-leeches. The last quality consists of young ones gathered a great deal too soon, and comparatively unfit for use. The relative prices to the wholesale dealer are 200 shillings, 165, 180, 92, 54 shillings the thousand. The relative size may be judged of from the relative weight of a thousand of them; which varies from 6½ to 6 9-10 avoirdupoise pound, for the great leeches; from 2½ to 2¾ for the middlings; from 1 38-100 to 1 43-100 for the little-middlings; and about 88-100 for the thread-leeches. Cow-leeches, an inferior sort, are the largest of all, for a thousand of them usually weigh about 20 pounds. At least two species of the leech occur in French commerce, the *Sanguisuga officinalis* and *S. medicinalis*; and M. Moquin-Tandon, who has studied their natural history attentively, finds that two other species, the *S. interrupta* and *S. obscura*, are also occasionally made use of in France.

The relative utility of the four principal qualities, deduced from the quantity of blood they draw, appears extremely different. In a careful trial made with ten leeches of each quality, which were selected for the purpose by one of the principal leech-dealers in Paris, it was found that each great leech, which weighed on an average 46 grains, drew 247 grains of blood; that each middling-leech, weighing 19½ grains, drew 129 grains; that each little-middling of the weight of 11 grains, drew 51 grains; and that each thread-leech, which weighed only 7½ grains, sucked no more than 19 grains. It is worthy of remark, that every one of these

forty leeches fastened upon the skin at once, and without any preparatory measure whatever.

The principal cause of the tardy and imperfect action of leeches is, that they are partially gorged by the dealers, either expressly, or simply because they have been previously used. The practice of expressly gorging leeches prevails to a great extent in France. The reason is, that the lower qualities of them, when allowed to remain in blood till they are satiated, will, in this way, double their original weight, and thus pass with the inexperienced for leeches of a higher quality, and much greater price. Leeches treated in this way are not always easily known. Though generally torpid, they are sometimes active enough; and when squeezed in the hand, they contract themselves into a ball, which is therefore not an infallible character, as some suppose, of the leech being good. They are best known by the following characters:—When pressed between the finger and thumb, they do not flatten so easily or so completely as when fasting, and they present a reddish appearance: If squeezed between the fingers from the head to the tail, a tumour forms at the end, consisting of blood: If the leech be dusted over the forepart of its body with finely-powdered salt, and a little more be sprinkled on its two ends, when it elongates them in its efforts to escape, the blood will be emitted within thirty seconds. The last test will even detect the minutest traces of blood left in a leech that has been used and stripped, unless the operation of stripping has been performed with unusual care. A virgin-leech never emits any blood when touched with salt.

Many interesting practical deductions follow from these facts. The most important to the medical practitioner is, that an experienced dealer can choose from his store leeches which will, to a certainty, fasten upon the skin at once without any preparatory measure, and will suck on an average half an ounce of blood. In ordinary cases, much annoyance is occasioned to the patient by the sluggishness with which they adhere; and the average quantity of blood drawn by suction does not exceed one drachm.

#### FORENSIC MEDICINE.

##### TESTS FOR OPIUM.

Where opium cannot be detected by the smell, Mr. Taylor prefers the sesqui-chloride of iron as a test, discovering as it does meconic acid in one hundred and sixtieth of a gr. of opium.

It might be supposed, says he, that if, on adding strong nitric acid to a portion of the liquid, a bright red colour resulted, this would be a sufficient indication of the presence of morphia, and therefore of opium; but a serious mistake might be committed in such a case, unless the operator had previously employed the iron test, and determined the presence of meconic acid in the liquid. It is worthy of remark that the nitric acid test, while it destroys the colour given by the meconate of iron (a dark red,) will bring out, when added to excess to the same portion of liquid, the peculiar bright amber red tint which it is known to give in a solution of morphia. The tests for meconic acid and morphia may be thus applied to one quantity of liquid.

Mr. Taylor, after explaining the fallacies these tests, and that of iodic acid, may give rise to, next describes some experiments he instituted for the discovery of the smallest quantity of morphia which can be detected by each. He found that nitric acid detected one-fifteenth gr. of muriate of morphia, diluted in 300 parts by weight of water; sesqui-chlor. iron detected the one-eleventh gr. in 231 parts of water; and iodic acid the one hundredth gr. in 1300 parts of water. Thus iodic acid is by far the most delicate test, discovering, as it does, morphia in less than one-fifth of a grain of opium; but



it is also the one most open to fallacy, and cannot be employed in coloured organic liquids, containing these small quantities. Practically its utility is far less than would be anticipated from the result of experiments upon the pure salts of morphia. Other experiments were performed for the purpose of ascertaining how small a quantity of *meconic acid* need be present in a fluid, to admit of its separation by acetate of lead, and subsequent identification by sesqui-chlor. of iron. No precipitate of meconate of lead occurred when the proportion of meconic acid was less than one-fortyeighth, gr.—i.e., about 0.34 gr. common opium. Unless, indeed, soluble matter of several grains of opium exists in the liquid for analysis, it will be difficult to obtain meconic acid and morphia separately. The *iron test for meconic acid* is far more delicate than any of the tests for morphia, and is much less liable to be interfered with. The one-fiftieth gr. or smallest visible portion of solid meconic acid is easily detected when free, while in solution, in a small quantity of liquid, even one-five-hundredth gr. may be discovered. Thus, the presence of this acid may be determined in a liquid from a much smaller quantity than would suffice to form a separable precipitate of meconate of lead; for, while for this latter one-third of a grain of opium is required, less than one-hundredth of a grain suffices for the exhibition of the acid by the direct application of the iron test. The procural of the precipitate of meconate of lead does not increase the certainty of the iron test, but merely enables us to obtain the meconic acid in a concentrated and solid form.—*Braithwaite's Retrospect.*

#### DR. TAYLOR'S REPORT ON THE PROGRESS OF TOXICOLOGY.

(Continued from page 195.)

It is remarkable that in this case there was neither vomiting nor purging. The salt does not appear to have operated so much by its irritant properties, as by its indirect effect on the nervous system. This, however, is by no means an unusual occurrence, even with irritants, far more powerful than the bichromate of potash.

*Antidotal treatment in cases of poisoning.* This subject has been lately examined by M. Bouchardat, and the conclusions at which he has arrived for the different irritant poisons are as follows: For *corrosive sublimate*, he recommends a mixture of zinc with iron filings, or iron reduced from the oxide by hydrogen, the moist per-(proto-) sulphate of iron. The same may be employed in cases of poisoning by copper and lead. In arsenical poisoning, the moist hydrated peroxide of iron, and the moist per-sulphuret may be used. This last preparation, it is alleged, decomposes the compounds of all these poisons, and should, therefore, be exhibited when the nature of the irritant is unknown. The heavy metallic powders may be given in an electuary; the fauces should be tickled to promote vomiting. It is said to have been found that 100 parts of the powder of iron or zinc was a complete counteragent to fifteen parts of the acetate of copper, but it required a much larger quantity of the moist magma of the per-sulphuret of iron, to produce the same effect. (See Ed. Med. and Surg. Journal, April, 1844.)

An ingenious paper has lately been communicated by Sir George Lefevre to the *Lancet*, (June, 1844,) in which will be found a summary of the common antidotes employed in cases of poisoning, with some excellent remarks on medical police, in reference to the sale and use of poisons. In a case of poisoning by *oxalic acid*, where the usual antidote is not at hand, Sir George recommends the administration of old mortar, finely powdered, or even the plaster scraped from a wall. In respect to other poisons, the only novelty of treatment which appears is in reference to *prussic acid*, where he states, that "a solution of sulphate of iron is found to be the best antidote," and even "*ink*" may be administered if the salt of iron should not be at hand.

There must surely be some mistake in reference to the use of sulphate of iron under such circumstances. The sulphate of iron cannot possibly act as a chemical antidote, for in solution it mixes with prussic acid in all proportions, without any chemical change whatever, a fact easily demonstrated by experiment. So, again, *ink* could have no more effect on the body than so much water,

unless, as it sometimes happens, it should contain corrosive sublimate, (put into it for the purpose of preventing mould,) when the effect would be the reverse of favorable. Indeed it is difficult to conceive on what principle, except on the wrong supposition that Prussian blue might be formed by the admixture, such substances could be recommended as antidotes in cases of poisoning by prussic acid.

*New antidote to prussic acid.* Although neither sulphate of iron nor ink can be considered to possess the least antidotal power in cases of poisoning by prussic acid, yet there is one form in which iron may be used with some hope of success. The production of Prussian blue by an admixture of the protoxide and peroxide of iron, precipitated from the green sulphate by caustic potash, has been long known as an admirable test for prussic acid. The application of these mixed oxides, as an antidote in poisoning by prussic acid, has been lately proposed by Messrs. T. and H. Smith of Edinburgh; and it may be said of this antidote that, whenever it can be administered sufficiently early, there is a very reasonable prospect of its success; for, by mere contact, it speedily converts this formidable poison into the insoluble inert compound, Prussian blue. These gentlemen have not, so far as I know, yet published any detailed account of their experiments; but it is stated, that when the acid with the antidote was given to dogs, the animals lived, while the same dose or acid without the antidote, proved fatal. The method by which Messrs. Smith prepared the antidote is not announced; but I have found that it may be prepared by precipitating, in a closed vessel, a strong solution of the common green sulphate of iron by caustic potash, and washing the oxide repeatedly with water recently boiled, until the alkali and the surplus sulphate are removed.

The following experiment was performed, in order to test the efficacy of this antidote in a chemical view. Four drachms of prussic acid, containing 1 per cent. of anhydrous acid—a dose sufficient to destroy an adult in a very short period of time—were agitated with the mixed oxides of iron, precipitated in the manner described, from a solution of one ounce of crystallized green sulphate of iron. That Prussian blue was almost instantly formed was evident on testing the mixture. It was allowed to remain an hour digesting; and then distilled at a very gentle heat. The clear liquid obtained by this distillation, was tested both by nitrate of silver and sulphate of iron. These tests had given abundant evidence of prussic acid in a few drops of the poisonous liquid, before the oxides of iron had been added; but now, not a trace of the poison could be discovered, neither by the odour nor by the action of nitrate of silver, which will detect the 1500th part of a grain of anhydrous acid; and for this experiment, as much as one fourth of the distilled liquid was used. No Prussian blue could be obtained, by the use of the sulphate of iron in the usual way, in operating upon another fourth of the distilled liquid; although this test is adequate to the detection of the fiftieth part of a grain of anhydrous acid, in a large quantity of water. It is therefore evident that the views of the Messrs. Smith are strongly confirmed by the results of these experiments; and now two questions will probably arise in the mind of the reader, respecting this antidote: 1. Whether, considering the great rapidity with which this powerful poison operates, any antidote whatever can be of the least service? 2. Admitting that the antidote is administered, is the conversion of the poison to the state of Prussian blue so complete and so rapid as to counteract its effects?

With regard to the first question, it may be remarked, that if in only one case in a hundred, there is sufficient time for its administration, a life may be saved; and much credit is therefore due to the Messrs. Smith for the ingenious suggestion of such a remedy. It is true that the symptoms from a powerful dose of prussic acid come on commonly in about ten or twelve seconds; but so long as life continues, there may be a hope of recovery by neutralizing the effects of the poison; and the recent case of Mrs. Belany, who lived twenty minutes, and respecting the death of whom a trial has recently taken place in London, shows that instances do occur in which there may be time for antidotal treatment. With respect to the second question, the answer to this must depend in a great measure on the results of experiments. No inference could be fairly drawn from the administration to an animal of the oxides of iron already mixed with prussic acid; although this was the way in which the alleged iron-antidote, in cases of arsenical poisoning, was, in the first instance, most improperly tested. Such an experiment may prove, it is true, the inertness of the compound formed; but it is quite unfitted to illustrate

the antidotal powers of the substance used; for a human being is never likely to swallow, as this experiment assumes, the poison and antidote together. In the case of prussic acid, more than in that of any other poison, it is necessary that the alleged antidote should produce its effects when administered a few seconds or minutes after the acid has been taken. On adding a small quantity of the mixed oxides to about one drachm of prussic acid, agitating and rapidly filtering, I found the poison still existing in pretty large quantity in the filtered liquid. I have reason to believe, however, that the chemical change would have been expedited by the use of a larger quantity of the mixed oxides; and as they are inert, there is no objection to their being given in very large doses. At any rate, it must, I think, be admitted, that, both in a chemical and pathological point of view, no remedy for prussic acid has hitherto been proposed, with a greater prospect of success than this possesses. If it should fail, its failure cannot be ascribed so much to any defect in its chemical operation as to the extraordinary rapidity with which the poison acts upon the system. The mixed oxides of iron may be prepared from the sulphate, and kept in a closely-stoppered bottle, filled with water previously deprived of air by boiling. Protoxide of iron may be speedily obtained in large quantity by agitating iron filings with a solution of sulphurous acid for a few minutes; filtering, adding caustic potash, and washing the precipitate with well-boiled water. It is important to state, that *peroxide of iron*, (the substance used in cases of arsenical poisoning,) cannot, in this case, be substituted for the mixed oxides; although it may serve to mix with the protoxide prepared in the way just described. The peroxide of iron alone will not form Prussian blue under any circumstances with prussic acid. In poisoning by the essential oil of bitter almonds, or by cyanide of potassium, the mixed oxides of iron are equally applicable; and in one case related in this Report, of poisoning by the oil of bitter almonds, the antidote might, had it been then known, have been used, and have accelerated recovery. It is possible, indeed, that it may become of more frequent use as an antidote to the oil, than to prussic acid. With respect to cyanide of potassium, we may at once administer a solution of green sulphate of iron to the patient, as the oxides are immediately precipitated by contact with the salt, and Prussian blue is formed. In the short account which I have seen, the Messrs. Smith appeared to have confined their observations to the effects of the oxide on prussic acid.\*

**Animal irritants.** In a late number of the *Edinburgh Medical and Surgical Journal*, (July 1844,) it is observed, in reference to the poisonous properties of the *flesh of diseased animals* used as food, that "in America there are certain regions, extending for many miles in length and some miles in breadth, on the herbage of which, if an animal feeds, its milk and flesh acquire poisonous properties, yet itself enjoys tolerable health. The disease which the use of the flesh or milk of the animals fed on these districts produces is known over all America by the name of the milk-sickness, or 'trembles.' All the infected spots occur west of the Alleghanies; and it is well known, that of the early emigrants whole communities, on account of the prevalence of this malady in a particular locality, which is generally distinctly circumscribed, were often compelled to seek another; and even at this day, those who venture within the boundaries of an infected district, are constrained, as a condition of their residence, to abstain from the flesh of the cattle living within the same limits, as well as from the milk and its preparations. It appears from the late report of Drs. Hosack, Post, and Chilton on this subject, that in some of these infected districts, the inhabitants, with a recklessness of human life which seems incredible, carry the butter and cheese which they themselves dare not eat to the markets of the towns west of the Alleghanies, and that thus there are frequently produced symptoms of poisoning and even death, for which the medical attendant cannot account, or he is induced to consider as some new or anomalous form of disease. From the same report we learn that the cattle from these districts are sent in great droves over the mountains, but in order to deceive the buyers as to the place whence they come, they bring them to New York by a southern route, and style them 'southern cattle. The flesh of these animals produces, in those who make use of it, symptoms of aggravated cholera morbus. The viscera of the animals are often found diseased, and the livers almost invariably so."

Owing to the symptoms of poisoning which have followed the use of such beef, butter, and cheese, the American government, caused a medical inquiry to be instituted into the matter; and it is probable that they will adopt the recommendation of the reporters, i.e., prohibit its sale. In the event of this occurring, it has been suggested as not improbable, that this poisoned food may find its way into England, and from its cheapness, be diffused among the poor. It would therefore be advisable, that practitioners should be on their guard, and note any suspicious circumstances that may rise. As we are without a system of medical police in England, it is not likely that government will have it in its power to prohibit the sale of such food, until many cases of the serious effects produced by it have occurred.

There is another more common article of food, namely, *bread*, upon which some observations have been lately made by toxicologists. In the *Annale d'Hygiene*, 1843, pp. 35 and 347, will be found communications on this subject from M. M. Guérard, Chevallier, and Gaultier de Claubry. The changes which take place in the decomposition of flour and bread, and the production of various kinds of mouldiness, are here investigated, together with the effects of such bread upon the animal system. It would appear that in some parts of France the peasantry manifest no repugnance to the eating of *mouldy bread*; and that in many instances the practice appears to be attended with no ill effects. The nature of the mould produced, however, is subject to great variation and it is not improbable, as M. Chevallier suggests, that in some cases a poisonous principle is actually developed. In two instances of children, who had partaken of mouldy rye-bread, symptoms resembling those of irritant poisoning supervened. The countenance was red and swollen, the tongue dry, the pulse quick, there were violent colics, with pain in the head and intense thirst. Vomiting and purging supervened with a state of collapse, but the children eventually recovered. These symptoms were ascribed to the production of "*mucor mucedo*" in the bread. In 1829, alarming effects having followed from the use of a certain kind of bread in Paris, M. Burruel was called upon to determine whether or not any irritant poison had become accidentally intermixed with it. The bread was simply in a mouldy state; there was no trace of poison. It is unnecessary to enter further into this subject; the facts adduced, together with experiments performed on animals, show that bread in a state of mouldiness, may not only produce symptoms of poisoning, but actually cause death; and as it is impossible to distinguish the noxious from the innoxious kind of mould, the use of all bread in such a condition should be avoided.

Even fresh bread may occasionally seriously affect the body. The brown bread of London has been known to produce vertigo, lethargy, and other unpleasant symptoms, indicative of an affection of the brain and nervous system. This has been ascribed, with some probability, to the "*lolium temulentum*" becoming accidentally mixed with the corn. Rye-bread is not much used in this country, but the presence of the ergot might here, in some cases, account for the symptoms which have been observed.

**Sulphate of potash.** The question whether this is to be regarded as a poisonous salt, of an irritant nature, has been much debated within the last year among numbers of the profession, owing to a case which was tried at the Central Criminal Court in October, 1843. (*The Queen v. Haynes.*) The prisoner had given to the deceased, the night before her death, two ounces of sulphate of potash, dissolved in water; and it was alleged that she had, a fortnight previously to this, taken, in divided doses, as much as a quarter of a pound of the salt. The woman supposed herself to be pregnant, which was disproved by an examination of the body; and it was charged that the prisoner had given her the salts with the intention of causing a miscarriage. After the last dose, she was seized with sickness, and died within a very short time. The stomach was found empty, but highly inflamed, and there was blood effused on the brain. One medical witness referred death to the action of this salt as an irritant poison; the other to apoplexy, as an indirect result of a violent vomiting caused by the salt. The prisoner was acquitted of the charge of murder, but subsequently found guilty of administering the drug with the intent to procure abortion. Both of the witnesses admitted that, in small doses, the salt was innocent; but that in the dose of two ounces it would produce dangerous effects. A portion of the sulphate in this case was examined by Mr. Brande, as it was suspected that some poisonous substance might have

\*It will of course be understood, that cold affusion, with stimulants, should be at the same time resorted to; and if the power of swallowing is lost, the antidote may be introduced by a stomach-pump.

become accidentally mixed with it; but it was found to be pure.

It is not improbable, from the symptoms and the inflamed state of the stomach, that the salt acted here as an irritant poison; and the fact of its being an innocent medicine in small doses appears to be no sound objection to this view; for the same circumstance is observed with respect to many substances, the poisonous properties of which cannot admit of dispute. Some have ascribed the irritant properties of this and other saline medicines—such as cream of tartar, in large doses—to their insolubility, and to the fine spicula of the powdered salt acting mechanically upon the mucous membrane of the stomach. This explanation does not appear sufficient: 1st, because some of these saline medicines, when taken dissolved—such as alum and nitre—have had a similar action; and, 2d, the effects are very different, and far more rapidly fatal than in those cases where mechanical irritants—such as fine sand or iron filings—have been taken. In short, there is no doubt that if the same quantity of the salt were taken perfectly dissolved in water, it would have an equally irritant effect; and sulphate of potash has been known to act in this way, when taken in divided and therefore very soluble doses. A case in which it thus proved fatal in *two hours*, is reported in the *Annales d'Hygiène*, April, 1842. According to Mr. Mowbray, *Medical Gazette*, v. 33, p. 54, sulphate of potash is a salt much employed in France as a popular abortive. He quotes several instances in which, in large doses, it produced severe symptoms, resembling those of irritant poisoning, and even death. In one case, two drachms acted powerfully; and in another, that fell under his own observation, four drachms of the salt, administered to a lady after her confinement, had all the effects of an irritant poison. The case of Haynes is the first instance in which, I believe, it is publicly known to have proved fatal in England; and it shows that substances, commonly regarded as innocent, may give rise to important questions in toxicology.

#### NARCOTIC POISONS.

**Opium.**—It has been frequently observed, in cases of poisoning by this drug, that the individual has recovered from the first symptoms, and has then had a relapse and died. There is some medico-legal interest connected with this state, which has been called secondary asphyxia from opium, although there appears to be no good reason for giving to it this name. In December, 1813, a gentleman swallowed a quantity of laudanum, and was found labouring under the usual symptoms. The greater part of the poison was removed from the stomach by the pump; and he so far recovered from his insensibility, as to be able to enter into conversation with the surgeon; but a relapse took place, and he died the following night. It is not improbable that, in these cases, death may be occasioned by a portion of the poison which has been carried by the absorbents into the system.

**Recovery from a large dose without vomiting.**—A case occurred at the Westminster Hospital, in December, 1843, (*Lancet*, Dec. 1843,) in which a woman, *ætat* 25, was brought into that institution while labouring under the symptoms of poisoning by opium. She was perfectly comatose, the features devoid of expression, the lips purple, and the pupils contracted to the size of a pin's head. The eyes were everted and fixed. Sulphate of zinc and tartar emetic were given without effect, and the stomach-pump was not brought into use until about an hour after her admission. The contents of the stomach were entirely free from the smell of opium. The woman was kept roused, coffee was administered, and she recovered. It appears she had swallowed *one ounce of laudanum*, but at what time before her admission is not stated.

It is difficult to say on what the recovery of this woman depended, for a very long time had elapsed before the contents were removed from the stomach, and then there was no trace of opium to be perceived by the smell. A better plan for determining the presence of opium in the discharged liquid is to dilute it sufficiently, and observe whether it acquires a red colour with the sesqui-chloride of iron. This change is always produced where opium is present even in very small proportion, owing to the meconic acid which it contains. The test will act where no odour is perceptible, either from the quantity of the drug being too small, or its being concealed by other odours. It is certainly remarkable that this woman recovered, considering the largeness of the dose, and the time which had elapsed before the stomach was evacuated.

**Dover's Powder.**—The following case of poisoning by Dover's

powder has been reported by Mr. Griffiths, (*Medical Gazette*, March, 1844.) About ten grains of Dover's powder were given by mistake to an infant seven weeks old, and it died in twenty-four hours afterwards. The following is an account of the post-mortem appearances. The countenance was placid, and the fingers of both hands were firmly contracted. On opening the abdomen, the colon was seen to be distended with flatus; the spleen, kidneys, and intestines were healthy; the liver gorged with blood; the stomach contained a very small quantity of colourless viscid matter. The inner coat was vascular; and at the great curvature, as well as in other parts, were small patches of highly injected vessels. The lungs were gorged with blood; the upper lobes being infiltrated with a greenish serum. The pericardium was vascular, and contained about a drachm of fluid. The right auricle was empty; the left ventricle contained some thin fluid blood, and a small coagulum. The smuses of the dura mater were filled with dark coagula; the surface of the brain appeared covered by a complete network of vessels, distended with light coloured blood. On the surface of each posterior lobe of the cerebrum, slight extravasation had taken place. The brain was soft, and the difference of colour between the gray and white matter barely discernible. The vessels in the substance of the brain were gorged with blood, presenting, on section, a thickly-studded appearance—the spots of a deep dull red, and in many places coalescing. There was a small quantity of fluid in each lateral ventricle, and on the floor of each were large distended blood-vessels. There was serous effusion on the surface and at the base of the brain, to the amount of about half an ounce. The contents of the stomach were carefully analysed, but neither morphia nor meconic acid could be detected.

This case is interesting in several particulars. In the first place it is surprising that so young an infant should have lived so long after taking a dose equivalent to one grain of opium. Making every allowance for the great vascularity of the brain in young subjects, it appears from the inspection, that the opium had here affected that organ, and caused a general congestion as well as effusion and slight extravasation, which latter condition is somewhat rare in poisoning by opium. The non-detection of the poison in the contents of the stomach was sufficiently accounted for by the small quantity of opium in the Dover's powder, and by the length of time which the child survived. The opium contained in ten grains of Dover's powder is equivalent only to about the twentieth of a grain of morphia, and probably about the same proportion of meconic acid. It is extremely rare that opium is found in the stomachs of young children poisoned by small doses.

Dr. J. B. Beck has lately published, in the *New York Journal of Medicine*, some excellent remarks upon the effects of opium on the infant subject. He shows that while this drug has a much greater effect on an infant in consequence of the greater impressibility of the nervous system, than on an adult, it is at the same time much more uncertain in its operation, and thus is liable to prove fatal in very small doses. Among the instances which he has accumulated, illustrative of the powerful action of the drug, he mentions one where a young child was narcotized by fifteen drops of paregoric elixir. This essay has been re-published in the *Medical Gazette* for March, 1844, (vol. xxxiii., p. 767.)

**Quantity of opium required to destroy life.**—The smallest quantity of opium in the solid state which has been known to destroy the life of an adult was four and a half grains mixed with camphor. This case is quoted by Dr. Christison. In September, 1843, an instance occurred in this metropolis of a woman, aged 38, being killed by eight grains of the drug given in two doses. These facts are interesting in a medico-legal point of view, by showing how small a quantity of this substance may, in some instances, destroy life.

**Solubility of opium in water.**—So far as I am aware no experiments have been performed to determine the quantity of this drug taken up by water in the form of infusion. In November, 1843, a case of poisoning by opium was referred to me by Mr. T. O. Duke, of Kennington, in which the question arose. An ignorant nurse made an infusion by pouring hot water on powdered opium in a bottle, and gave, at short intervals, three teaspoonfuls of this infusion to a child aged about fourteen months, and it died poisoned by the drug in about eighteen hours. It was found that the infusion contained only 1.6 per cent of solid matter, i.e., of the soluble part of the opium; and that the principal part of the meconate of morphia had been taken up, was proved by an infusion subsequently made, retaining only faint traces of that salt.

The results of some experiments on this subject were as follows: fifteen grains of finely-powdered opium were infused, for twenty hours, with six drachms of boiling distilled water. On examination, the filtered infusion was found to contain 4 per cent. of solid matter, i.e. of the soluble part of opium. In another experiment, opium sliced was employed with water in the same proportions. The quantity dissolved averaged, on several trials, from 3 to 4 per cent., depending on the proportion of water, and the length of contact. By boiling, the residue in each case a further quantity of meconate of morphia was obtained, showing that an aqueous infusion, while it will not extract the whole of the meconate at once, will yet take up sufficient to render it actively poisonous to young children.

**Prussic Acid.**—It has been a seriously debated question among medical jurists, whether an individual, after having swallowed a strong dose of prussic acid, could retain the power of performing certain acts indicative of volition and the preservation of sense. Two cases have occurred within the last year in England, which throw some additional light upon this important question, on which a charge of murder may sometimes depend. In one case, the deceased, an adult, swallowed three drachms of prussic acid from the phial in which it was contained, while another person was in the room with his back turned to him. This individual was alarmed by hearing the deceased exclaim "it's gone," and in answer to a question put by witness, said, "I have taken it." He was again about to speak, but his articulation failed him, he became insensible, and died immediately afterwards.

The other case was referred to me from Suffolk, by Mr. Newham, surgeon of Bury St. Edmunds. In March, 1844, a commercial traveller was found dead in his bed at an inn. The evidence given at the inquest showed that he had died from the effects of prussic acid, and there could not be the slightest doubt that he had taken the poison himself. The point of interest connected with the case is, that when discovered dead, he was found lying on his left side in the natural position of rest, the legs being slightly drawn up to the abdomen; the arms bent over the chest; and although rigid, the hands were not clenched, nor did they appear in any way to have been spasmodically affected. The bedclothes were smoothly drawn up to his shoulders, and there was no appearance whatever of disorder about them. On a chair beside the bed, at his back, was a phial holding about six drachms, and still containing a small portion of a liquid smelling strongly of prussic acid, mixed with the essential oil of lemon, which had probably been purposely mixed with it to disguise the odour. This phial was found with the cork in it. Mr. Newham correctly observes, that this condition of things clearly indicates a sequence of several voluntary acts performed by the deceased immediately before death; as, for instance, swallowing the acid from the bottle, then corking the bottle, placing it on a chair at the back of the bed, the turning over in bed, drawing up the bedclothes, and composing himself into a position of rest. From the evidence at the inquest, it appeared that not less than three drachms of prussic acid had been taken, and probably even a larger quantity; and the question arose, whether all the events above mentioned could have occurred between taking into the stomach so large a dose of this poison as to cause death without inducing convulsions, of which there were no signs? The fact that this was really a case of suicide, left it beyond doubt that the deceased had, after swallowing this dose, performed the series of acts above mentioned; and it was equally evident that convulsions had not taken place, at least so as to leave any sign of their existence in the dead body.

The reader will observe that this case is very similar in its details to that of Judith Buswell, for the alleged murder of whom, a young man named Freeman was tried at the Leicester Spring Assizes in 1829. (See Med. Gazette, vol. viii. p. 759.) The medical opinions in that case, from a similar series of acts, were rather against the presumption of suicide, and in favour of homicidal interference. It has been supposed, that when a strong dose of prussic acid destroys life so slowly as to give time for the performance of such voluntary acts, this would be indicated by the body being found in a convulsed state; when, on the other hand, death takes place so rapidly that there are no convulsions, then the inference should be that the deceased could not have retained sense or power sufficiently long for the performance of these acts. The above, with other similar cases, proves that we cannot trust to an assumed criterion of this kind. There may be no mark of convulsion about a dead body,—circumstances may show, that

sense, volition, and a power of motion were actually retained for a certain period; and yet all this is compatible with the act being one of suicide from a large dose of prussic acid. We are not justified in inferring that a dose of this kind, when it operates slowly, is always and necessarily indicated by the body of the deceased being found in a convulsed state.

This question has acquired still greater interest from the late trial of Belany for poisoning his wife by prussic acid (Cent. Crim. Court, Aug. 1844.) The prisoner declared that the deceased shrieked, and afterwards told him that she had swallowed some "hot liquid." The medical witnesses are reported to have stated (although only from experiments on animals) that this shriek or cry was the immediate precursor of insensibility, and the last act of vitality,—in short that the power of speech would be then entirely lost. Hence the prisoner's statement would be inconsistent with truth. However strong the circumstantial evidence may have been against the accused, and it could scarcely have been stronger,—this medical opinion is not borne out by observation. In one instance, just related (p. 551), a larger dose of the poison was probably taken; but the deceased was able to answer a question and say, "I have taken it," before he became insensible. A very similar case, reported by Dr. Gierl, is to be found in most works on toxicology. These cases then clearly prove that, whether a shriek or cry be a constant accompaniment of poisoning by prussic acid or not,—a point which yet remains to be proved,—an individual may speak and even answer a question rationally after having taken the poison, and immediately before falling into a state of insensibility.

(To be Continued.)

THE

## British American Journal.

MONTREAL, NOVEMBER 15, 1845.

### THE AMERICAN SOCIETY OF DENTAL SURGEONS.

We perceive in the September number of the American Journal and Library of Dental Science, one of the standard medical periodicals of the United States, and the organ of the American Society of Dental Surgeons, a report of the sixth annual meeting of that body, on the 5th of August last. The proceedings, to that class of practitioners more immediately concerned, must partake of considerable interest; but certain resolutions were adopted at an adjourned meeting held on the 9th, which we consider highly important, and deserving of general promulgation. A committee had been appointed to suggest some plan of action for the adoption of the society, in reference to the very prevalent nefarious practice of stopping carious teeth by amalgam. Having obtained the opinion of the most enlightened dentists in the city of New York and Brooklyn on the subject, the committee reported, "that they have deliberated carefully upon the matter referred to them, and that their unanimous opinion is, that any amalgam is not only unfit, but dangerous when used for the purpose of filling carious teeth or their fangs, and they call upon the society to express in decided terms, its disapproval of the practice:" whereupon it was resolved, "That the American Society of Dental Surgeons, under the conviction that any amalgam whatever, used under the name of 'mineral paste,' 'adamantine

cement,' 'succedaneum,' 'diamond cement,' 'lithodeon,' alabaster cement,' chinese cement,' or in any other way designated, is not only unfit but dangerous, when used for filling the teeth or their fangs, do hereby pronounce the use of all amalgams as malpractice," and they furthermore resolved, "That any member of this society who shall hereafter refuse to sign a certificate pledging himself not to use any amalgam, and moreover protesting against its use under any circumstances in dental practice, shall be excluded from the society."

The society, at the same sitting, adopted another important resolution, "That this society view the publication by Dentists, in connection with their advertisements, of letters of recommendation from Divines, Doctors of medicine, and in short all who are not acquainted with dental practice, with decided disapprobation, and they would specially recommend to all its members, who may be pursuing this course, to *discontinue a practice savouring so much of quackery*, and which is so well calculated to degrade the profession."

This society is doing its utmost to place Dental Surgery in that position which is its due among the subdivisions, to which attention to specific departments of surgery tends. By the first resolution which we have recorded, the public will be permitted to judge for themselves of the rationality and safety of the practice which is thus by competent authority condemned; for there can be no doubt that it is frequently "destructive to the teeth, injurious to the healthy condition of the mouth, and not unfrequently exciting and promoting bad effects in constitutions disposed to the injurious action of mercury, which invariably constitutes an ingredient in all these compounds." And the second will have the effect of separating the proficient dentist, who requires no such puffing, from the itinerant quack, and will go far to purge the profession of a very numerous class, which by unprofessional conduct in this respect is continually degrading it.

#### ACTION FOR SLANDER.

In the *Brandford Courier* of October 4, we find reported, what is fortunately rare in this country, the details, at the Gore District assizes, of an action for slander, brought by Dr. Alfred Digby, against Dr. Peter Mercer, both of Brandford, in which a verdict was obtained by the Plaintiff, £25 damages. The facts of the case appear to be the following. Dr. Digby had been attending a patient in her accouchement, an inversion of the uterus followed, which, whether partial or complete, does not appear, succeeded by hæmorrhage, under which she died. Failing in his attempts at immediate reduction, Dr. Digby sent off for Dr.

Mercer, who in consequence of some coolness previously existing refused to attend; on the receipt of a second message, however, he went. The placenta was *now* separated by Dr. Mercer, "and they both then attempted to put the uterus back." It is but justice to Dr. Digby, to observe, that one of the witnesses stated, "that the substance came away while Dr. Digby was tying the cord; that she did not think he was using any violence," and that to a remark made by the patient "that she felt as if her inside was coming out," he observed "that he was not touching her." These circumstances would lead us to the supposition, that the inversion was not the result of any injudicious and over-active interference in the extraction of the placenta, but that it may be attributed to the supervention of some untoward occurrence, after the completion of the second stage of labour, consequent upon the cord or the uterus. Be the cause, however, what it may, Dr. Mercer indulged in severe remarks concerning it to various parties, attributing the fatal issue of the case to Dr. Digby's ignorance, and even insinuated to the husband of the deceased, "that Dr. Digby had used violence towards his wife," upon all which, after the reports had reached Dr. Digby, the present action was instituted. Such are the facts of the case, as have transpired from the trial. The defendant was not permitted to put in any plea of justification; but whether the court had permitted it or not, he will scarcely be able to justify himself before the Profession, of the ethical rules of which he appears to have committed a most aggravated breach.

#### PETRIFIED HUMAN BODY.

We observe in the *Boston Medical Journal*, the notice of the exhibition of a petrified human body in that city, imported into the United States from Berthier in this district. In the first number of this journal, some observations will be found relative to the same body. Shortly after, we had an opportunity of inspecting it, having been requested to meet a deputation from the Literary and Historical Society of Quebec at Berthier, for the express purpose. However much in appearance the body may "resemble soft sandstone," we can assure the Editor of the *Boston Journal* that it is nothing but *adipocere*, and is very far from possessing "the same specific gravity" as sandstone. We have a specimen of it, removed by a pen-knife from the fleshy part of the fore-arm, and a beautiful specimen of *adipocere* it is. The *external surface* of the body was of a brownish color, and presented evidence of mould. On chemical examination, it gave evidence of the presence of iron. After this explanation, our contemporary will be at no loss in discovering the reason why the body should be

"tightly screwed up in a box," and "secured beyond the reach of touch" of the profane and curious, whose minute inspection might most seriously interfere with "the assertions of those most interested in the receipts." Our object in noticing this, is to expose a humbug, and to defeat the cupidity of parties deprived of the finer feelings of humanity.

#### QUEBEC MEDICAL SOCIETY.

This Society held an extraordinary meeting on the 25th instant, for the purpose of receiving the report of its delegates to the convention held at Montreal on the 21st of August last.

Dr. Sewell read the following report:—

The delegates appointed by the Quebec Medical Society, to represent their interests at the convention called at Montreal for the 20th of August last, beg to report that they proceeded to that City, and met on the above mentioned day the following gentlemen:—

Drs. Valois, Kimber, Arnoldi, Nelson,	} Delegates from the District of Montreal.
Drs. Marsden, Gilmour, Fortier,	
Dr. Hodder,	
AND,	
Drs. Badgley, Crawford, McDonnell, Fraser, David,	} Delegates from the District of Three Rivers.
	} Delegate from the Toronto and Niagara Districts.
	} Delegates from the Medico- Chirurgical Society of Mon- treal.

Dr. Morrin was called to the Chair, and Dr. Badgley requested to act as Secretary.

Your delegates regret extremely, (as well, no doubt, the Profession at large), that the objects of the Convention were not so fully carried out as might have been wished, in consequence of a misunderstanding having arisen between the delegates of the District of Montreal, and those of the Medico-Chirurgical Society; as to the right of the latter to be present at a meeting of the delegates from the different *Districts*, they being *merely* representatives of a Society.

In this question your delegates, (being also the delegates of the *District* of Quebec,) were necessarily obliged to take part; and a division being called for, it was found that a *simple* majority of the meeting were of opinion, that the said delegates did not represent any *district*, and that by consequence, had no right to vote upon any question which might come before the Convention. The gentlemen, therefore, forming the Delegation from the Medico-Chirurgical Society, after having made a verbal protest, retired, accompanied by Drs. Hodder and Marsden.

The Society will perceive, that by this first step its delegates were left to act in their single capacity as delegates from the District of Quebec.

In conclusion your delegates deeply deplore the re-

sult of this, the first attempt to bring together in convention, the members of the Medical Profession scattered over this extensive province; a measure which when effected, (as your delegates fondly anticipate will shortly be the case), must tend not only to the elevation and advantage of our own body, but also, to the interests of the public at large.

All of which is humbly submitted.

(Signed) Jos. PAINCHAUD,  
J. BLANCHET,  
Jos. MORRIN,  
JAS. A SEWELL,  
ED. ROUSSEAU.

Quebec, October 1845.

The following resolutions were unanimously adopted:—

1st. That the report now read, be adopted and entered upon the minutes.

2nd. That the best thanks of this Society are due, and are hereby given to the delegates, who proceeded to Montreal to represent its interests at the Convention.

3rd. That this Society learns with regret, that the efforts of its delegates have not been crowned with more satisfactory results. But this Society is disposed to attribute this circumstance more to the misunderstanding in the manner of calling the Convention, than to any material difference of opinion on matters affecting the general interests of the profession.

Dr. Painchaud then laid before the meeting, a copy of the report of the delegates of the Medico-Chirurgical Society of Montreal, erroneously addressed to him as Secretary of the Quebec Medical Society.

The report having been read, the following resolutions were unanimously adopted.

That the Quebec Medical Society views with regret the 4th resolution of the Montreal Medico-Chirurgical Society, adopted at its meeting of the 30th of August last, but at the same time, in consideration of the circumstance alluded to in the 3rd resolution adopted this day, does not feel itself called upon to give any expression of opinion on the votes of its delegates at the late Convention.

That a copy of the minutes of this day's proceedings be transmitted to the Medico-Chirurgical Society of Montreal, and that they be published in the British American Journal of Medicine.

J. Z. NAULT, *Secretary*.

#### BILLS OF MORTALITY.

We are happy to announce, that in pursuance of the suggestions thrown out on this subject in the fourth number of our Journal, the corporation of this city has perfected a measure, with the above object in view. A copy of the by-law has been, we understand, forwarded by the city clerk to the different medical gentlemen of the city who will, we doubt not, cheerfully further the end which it is the object of the act to secure. We now hope that the other Provincial cities will follow the example of the metropolis, and we shall soon have valuable statistic returns of disease and mortality, afford-

ing unerring criteria of the comparative salubrity of different localities, the prevalence of particular diseases therein, and yielding among other results, the only sure method of obtaining rates of life assurance on an equitable and just foundation.

We acknowledge with many thanks the receipt of the Meteorological report for Toronto, from Lieut Lefroy, the officer in charge of the observatory in that city. Toronto may, with propriety, be viewed as the centre of the Western, as Montreal may be regarded that of the Eastern portion of this Province, and the Meteorological observations recorded in both the cities may not inappropriately be taken as the averages of the respective territories.

At a meeting of the Medical Board, for the District of Montreal, held on the 5th instant, the following gentlemen were recommended for license to practice Physic, Surgery, and Midwifery. R. L. MacDonnell, M. D., Jean Lukin Leprohon, M. D., M. Calder, Surgeon, and, after examination, Messrs. J. B. Valiquet, S. Tassé, and M. Poisson. To practice as Apothecary, Chemist and Druggist.—Mr. James Sheridan.

At meetings of the Medical Board for the District of Quebec, held on the 4th and 5th instant, the following gentlemen, after examination, were recommended for license to practice Physic, Surgery, and Midwifery. Ludger Tetu, P. N. Mâsse, J. L. Robichaud, Duncan McCallum, and G. Dillon Gernon.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR THE MONTH OF OCTOBER.

DISEASES AND ACCIDENTS.	
Anchylonia, . . . . .	5
Ambustio, . . . . .	1
Anasarca, . . . . .	1
Bronchitis, . . . . .	1
Catarrhus Senilis, . . . .	4
" Vesicæ, . . . . .	1
Colica, . . . . .	1
Cynanche, . . . . .	4
Conjunctivitis, . . . . .	1
Contusio, . . . . .	7
Diarrhœa, . . . . .	5
Delirium Tremens, . . . .	3
Dysuria, . . . . .	1
Dysenteria, . . . . .	2
Dyspepsia, . . . . .	1
Erysipelas, . . . . .	1
Febns Com. Con., . . . .	28
" Typhus, . . . . .	3
Fractura, . . . . .	4
Hæmorrhoids, . . . . .	1
Herpes, . . . . .	1
Hypertrophia Mammæ, . .	1
Hypochondriasis, . . . .	1
Icterus, . . . . .	3
Impetigo, . . . . .	1
Leprosy Syphilides, . . .	1
Lupus, . . . . .	1
Morbus Cordis, . . . . .	1
" Brightii, . . . . .	1
" Coxarum, . . . . .	1
" Splenis, . . . . .	1
Necrosis, . . . . .	1
Neuralgia, . . . . .	1
Œdema, . . . . .	1
Ophthalmia, . . . . .	1
Osteo Sarcoma, . . . . .	1
Paronychia, . . . . .	1
Phthisis, . . . . .	4
Prolapsus Uteri, . . . .	1
Rheumatismus, . . . . .	8
Rubeola, . . . . .	2
Schirrhous Gastris, . . .	2
Sciatica, . . . . .	1
Subluxatio, . . . . .	1
Syphilis, . . . . .	10
Trichiasis Favosa, . . .	1
Talapus, . . . . .	1
Ulcus, . . . . .	9
Varicella, . . . . .	3
Vulnus, . . . . .	1
Total, 133	

Dr. CRAWFORD, } Attending Medical Officers  
Dr. SEWELL, } for October.

#### NUMBER OF PATIENTS TREATED DURING THE MONTH OF OCTOBER.

Remained, . . . . .	101	Discharged, Cured, . .	125
Admitted, . . . . .	133	Do Irregular Conduct, .	1
Total treated, 234		Died, . . . . .	4
		Remaining, . . . . .	104
		Total, . . . . .	234

#### IN-DOOR PATIENTS TREATED.

Belonging to Montreal, .	95
Immigrants, . . . . .	28
Seamen, . . . . .	10
Total, . . . . .	133
Males, . . . . .	86
Females, . . . . .	47
Total, . . . . .	133

#### OUT-DOOR PATIENTS TREATED.

Belonging to Montreal, .	176
Immigrants, . . . . .	32
Seamen, . . . . .	5
Total, . . . . .	213
Males, . . . . .	101
Females, . . . . .	112
Total, . . . . .	213

ALEXANDER LONG, M. D., House Surgeon.

#### RETURN OF SICK IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC, FROM THE 1st TO THE 30th SEPTEMBER, 1845.

J. PAINCHAUD, M.D. Physician.  
J. DOUGLAS, Surgeon.

#### DISEASES AND INFIRMITIES.

Febris, . . . . .	24	Fistula In Ano, . . . . .	1
Varicella, . . . . .	3	Hydrocele, . . . . .	1
Bronchitis, . . . . .	1	Phlegmon, . . . . .	1
Catarrhus, . . . . .	11	Syphilis, . . . . .	30
Rheumatismus, . . . . .	11	Orchitis, . . . . .	6
Diarrhœa, . . . . .	9	Stricture Urethrae, . . .	1
Cynanche (Tonsil), . . .	1	Fractura,† . . . . .	9
Herpes, . . . . .	1	Contusio, . . . . .	12
Rubeola, . . . . .	1	Vulnus, . . . . .	5
Delirium Tremens, . . .	1	Abscessus, . . . . .	5
Ophthalmia, . . . . .	2	Ulcus, . . . . .	2
Paralysis, . . . . .	1	Concussio Cerebri, . . .	1
Amenorrhœa, . . . . .	1	Morbi Alien, . . . . .	6
Ruptura Urethrae,* . . .	1	Total, . . . . .	149
Carcinoma, . . . . .	1		

#### NUMBER OF PATIENTS TREATED DURING THE MONTH OF SEPTEMBER.

Remained, . . . . .	86	Discharged, . . . . .	159
Since admitted, . . . .	149	Died, . . . . .	2
Total, . . . . . 235		Remaining, . . . . .	74
		Total, . . . . .	235

\* Produced by a fall from the rigging, twenty four hours before admission. There were extensive sloughing of the *Perineum Scrotum and Penis*. An inch of the *Urethra*, just anterior to the bulb, came away with the sloughs, the *corpora cavernosa* being exposed a great part of their length.

† One of the *cranium*, compound of the *humerus* and *olecranon* on the same individual. One of the *radius*—one of the *humerus* alone—one of the lower maxillary bone—one of the clavicle—one of the *sternum*—one of the *femur*—one of the *fibula*—one compound of the finger.

#### OPERATIONS.

One of lithotomy for the extraction of four calculi, from the bladder of a child of six years of age.

One for the removal of a diseased Testicle.

One for the removal of the entire lower lip.

One for *fistula in ano*.

One for the amputation of a finger, and sundry smaller operations.

J. E. J. LANDRY, House Surgeon.



BOOKS, &c., RECEIVED DURING THE MONTH.

Boston Medical and Surgical Journal. Nos. 11, 12, 13, 14, 15.  
 Dublin Medical Press. Nos. 351, '52, '53, and '54.  
 American Journal of Medical Sciences. October Number.—  
 Philadelphia.  
 American Journal of Science and Arts. July and October  
 Numbers. New Haven.  
 Northern Journal of Medicine, Vol. II. Nos. 1, 2, 3, 4, and 5.  
 Edinburgh.  
 Illinois Medical and Surgical Journal. No. 7.  
 Wiley and Putnam's Literary News Letter. November. New-  
 York.  
 Armour and Ramsay's " " November. Mon-  
 treal.  
 Buffalo Medical Journal. November.  
 Southern Medical and Surgical Journal. November. Augusta.  
 New Orleans Medical and Surgical Journal. November.  
 St. Louis Medical and Surgical Journal. November.  
 New York Journal of Medicine and the Collateral Sciences.  
 November.  
 Annual Report of the Vermont Asylum for the Insane.

NOTICE TO CORRESPONDENTS.

We acknowledge the receipts of letters during the month, with  
 enclosures, from Dr. O. Newell, (Durham); Dr. Bicknell,  
 (Clarke's Mills); Rev. E. Denroche, (Brockville); J. Musson,  
 Esq. (Quebec.)

The journal has been forwarded in accordance with Mr. Den-  
 roche's request. The back numbers have been sent to Dr. Case,  
 (Hamilton), and Drs. Skinner and Ross, (Burford). The re-  
 quest of Dr. A. Fournier (St. Pierre les Becquets) has been  
 complied with, as also that of Mr. F. H. Parent, (St. Con-  
 stant.)

Letters have been also received from Dr. Nault, (Quebec), ac-  
 companying report of the proceedings of the Quebec Medical  
 Society, which appears in this number; from Dr. Grassat,  
 (Toronto); and Lieutenant Lefroy of H. M. Magnetical Ob-  
 servatory, Toronto. These two gentlemen have our warmest  
 thanks for their attention.

We have received a paper on "a case of Infanticide," from Dr.  
 Smallwood, (St. Martin.)

According to the desire of the Editors of the SOUTHERN ME-  
 DICAL AND SURGICAL JOURNAL, we have sent off to their address  
 the back numbers.

We would request the NEW YORK JOURNAL OF MEDICINE to  
 mark on its exchange our proper designation. The MONTREAL  
 MEDICAL GAZETTE has been defunct since the 1st May last. As  
 we have reason to believe that a regular exchange has been  
 intended since that period, and as none of the numbers have  
 come to hand, except the present, we would consider it a favour  
 if the back numbers were forwarded.

We earnestly request those of our country subscribers who have  
 not paid their subscriptions to the Journal, to do so without further  
 delay. The amount is, to each, a mere bagatelle; but its loss,  
 when collectively considered, proves a very serious inconvenience  
 to the publisher. We certainly conceive that there is a sufficient  
 esprit de corps in the profession in these Provinces, to support a  
 journal representative of their interests; and as the experiment is  
 now tried on a scale commensurate with their importance, and as  
 the Editors conceive with their deserts, it remains for them, in a  
 pecuniary point of view, to contribute to its success, if they deem  
 the attempt worthy of it.

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL—OCTOBER, 1845.

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	NOON.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1.	+59	+71	+57	65	29.74	29.74	29.72	29.73	S. W.	S. W.	S. W.	Fair	Fair	Cloudy
2.	" 51	" 61	" 53	56	29.93	29.89	30.02	29.95	W.	W.	W.	Fair	Fair	Fair
3.	" 55	" 60	" 51	57.5	30.05	30.14	30.27	30.15	W. by N.	W.	W.	Rain	Fair	Fair
4.	" 47	" 61	" 50	54	30.30	30.20	29.98	30.16	N.W. by W.	N.W. by W.	W.	Rain	Fair	Fair
5.	" 50	" 54	" 43	52	29.80	29.83	30.03	29.89	W.	N. by E.	N.	Fair	Rain	Rain
6.	" 40	" 58	" 44	49	30.29	30.28	30.28	30.29	N. by W.	N. by W.	N. by W.	Fair	Fair	Fair
7.	" 42	" 57	" 50	49.5	30.28	30.21	30.14	30.21	N. by W.	N. by W.	N. by W.	Fair	Rain	Rain
8.	" 49	" 67	" 55	58	30.18	30.12	30.05	30.12	N.E.	N.E.	N.E. by E.	Fair	Fair	Fair
9.	" 53	" 64	" 51	58.5	29.86	29.87	29.90	29.88	S. E.	S. E.	S. E.	Rain	Rain	Rain
10.	" 50	" 60	" 54	55	30.00	29.97	29.92	29.96	E. N. E.	N. E. by E.	N.E. by E.	Rain	Cloudy	Rain
11.	" 55	" 62	" 59	58.5	29.86	29.61	29.77	29.75	S.E. by E.	S. E.	S. E.	Rain	Rain	Rain
12.	" 60	" 68	" 53	61	29.55	29.48	29.67	29.57	S. E.	S. E.	W.	Rain	Rain	Rain
13.	" 41	" 55	" 42	48	30.04	30.09	30.24	30.12	W.	W.	W.	Fair	Sh'wrs	Fair
14.	" 46	" 59	" 46	52.5	30.16	30.16	30.16	30.16	S. W.	S.W. by S.	S.W. by S.	Fair	Rain	Cloudy
15.	" 39	" 44	" 30	41.5	30.21	30.30	30.41	30.31	W. by N.	N. W.	N.W.	Fair	Fair	Fair
16.	" 29	" 40	" 35	34.5	30.50	30.44	30.35	30.43	N. W.	W.	W.	Fair	Fair	Fair
17.	" 34	" 50	" 43	42	30.33	30.29	30.22	30.28	W.	W.	W.	Fair	Fair	Fair
18.	" 33	" 60	" 45	46.5	30.28	30.17	30.05	30.17	W.	W.	W.	Fair	Fair	Fair
19.	" 48	" 62	" 42	55	29.90	29.85	30.18	29.98	W. by S.	S.W. by W.	W.	Fair	Fair	Fair
20.	" 35	" 44	" 32	39.5	30.36	30.34	30.33	30.34	N. W.	N. W.	N.W.	Fair	Fair	Fair
21.	" 28	" 40	" 29	34	30.40	30.43	30.50	30.44	N.E. by E.	N.E. by E.	N. by W.	Fair	Snow	Fair
22.	" 26	" 40	" 31	33	30.53	30.48	30.45	30.49	W.	W. by S.	W.	Fair	Fair	Fair
23.	" 30	" 50	" 40	40	30.40	30.32	30.21	30.31	W.	W.	S. W.	Fair	Fair	Fair
24.	" 40	" 49	" 35	44.5	30.24	30.31	30.36	30.30	S. W.	S. W.	S. W.	Fair	Fair	Fair
25.	" 28	" 41	" 34	34.5	30.43	30.39	30.23	30.35	N. W.	N. W.	N. W.	Fair	Fair	Fair
26.	" 31	" 55	" 44	43	30.32	30.22	30.20	30.25	N. W.	N. W.	S. W.	Fair	Fair	Fair
27.	" 46	" 60	" 51	53	30.20	30.20	30.21	30.20	S. W.	S. W.	S. W.	Fair	Fair	Fair
28.	" 50	" 62	" 56	56	30.16	30.09	30.06	30.10	W. S. W.	W. S. W.	W. S. W.	Fair	Fair	Fair
29.	" 52	" 65	" 58	58.5	30.03	29.94	29.75	29.91	W.	W.	W.	Fair	Fair	Fair
30.	" 39	" 51	" 36	45	30.02	30.09	30.15	30.09	N. W.	N. W.	N. W.	Fair	Fair	Fair
31.	" 30	" 40	" 48	35	30.15	29.93	29.74	29.94	N.W. by N.	N.W. by N.	N.W. by N.	Fair	Rain	Rain

Therm. } Max. Temp., 71° on the 1st  
 } Min. " 26° " 22d  
 Mean of the Month, 57° 8'

Barometer, } Maximum, 30.53 inches on the 22d.  
 } Minimum, 29.48 " " 12th.  
 Mean of Month, 30.123 inches.



**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—OCTOBER, 1845.**  
*Latitude 43°. 39' 4". N. Longitude 79°. 21' 5". W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.			Tension of Vapour.			Temperature of the Air.			Humidity of the Air.			Wind.			Rain or Snow.	WEATHER.
	7 A.M.	3	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.		
1,	29.313	29.371	29.549	29.4524	340	406	260	306	52.3	57.0	44.5	50.81	88	89	90	0.170	Cloudy a.m. Slight rain 4 p.m.
2,	29.380	29.417	29.641	29.6647	301	424	344	363	49.0	59.0	54.7	55.35	89	87	82	—	Clear a.m. Clouded p.m.
3,	29.753	29.866	29.872	29.8438	357	360	361	349	54.5	56.4	51.8	53.38	86	81	96	—	Clouded all day. Rain 7 to 8 a.m.
4,	29.804	29.586	29.466	29.7304	330	426	369	327	49.6	58.2	51.2	48.39	94	90	1.00	.240	Clouded a.m. Clear p.m.
5,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.050	Shower, clouded, & clear after 7 p.m.
6,	29.944	29.890	29.879	29.8888	182	235	203	200	37.3	50.0	36.6	43.18	82	66	.95	.080	Generally clear.
7,	29.816	29.766	29.753	29.7728	228	345	365	330	39.6	54.2	50.0	50.23	94	84	1.00	—	Clouded genly. Slight rain 8 to 9 p.m.
8,	29.774	29.621	29.5617	29.6348	358	406	361	389	49.1	55.0	55.6	55.48	98	96	.93	.720	Clouded all day. Rain all after.
9,	29.414	29.559	29.604	29.5522	438	409	374	389	58.0	63.3	59.4	55.96	93	72	.96	—	Clear a.m. Clouded p.m.
10,	29.571	29.450	29.379	29.4455	393	413	462	420	53.4	59.0	59.4	57.65	98	84	.93	—	Clouded all day.
11,	29.450	29.459	29.355	29.4768	403	400	316	336	56.3	55.6	51.3	49.92	91	.92	.84	—	Clouded all day. Rain 7 to 12 p.m.
12,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.470	Clouded all day. Rain 7 to 12 p.m.
13,	29.726	29.757	29.745	29.7399	210	285	285	278	38.1	53.5	52.5	50.58	93	.71	.73	—	Clouded all day. Wind brisk to fresh
14,	29.784	29.894	29.954	29.9070	280	155	166	191	47.2	46.8	39.8	41.86	88	49	.69	.050	Genly clear. Wind brisk to fresh
15,	30.048	30.085	30.137	30.1085	149	137	147	149	28.1	40.8	30.6	34.83	96	.54	.85	—	Clouded a.m. Clear p.m. Rain 6 to 7 a.m.
16,	30.189	30.074	30.036	30.0824	159	182	136	158	33.2	45.7	36.0	38.12	84	.60	.65	—	Generally clear. Particles of snow falling
17,	30.001	29.898	29.885	29.9170	171	258	190	206	36.1	52.2	36.6	41.49	81	.67	.88	—	Generally clear. (Dust of the snow.)
18,	29.886	29.762	29.633	29.7926	199	343	298	268	36.0	58.0	47.7	47.87	95	.73	.91	—	Clear a.m. Clouded p.m.
19,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Generally clouded.
20,	29.988	29.944	29.9101	29.9194	212	164	112	157	38.6	38.6	29.4	33.27	92	.70	.68	.070	Clouded a.m. Clear p.m. Aurora
21,	30.158	30.209	30.205	30.2044	113	118	134	120	26.3	32.9	28.0	28.50	79	.63	.87	—	Generally clouded.
22,	30.223	30.137	30.091	30.1275	105	166	136	135	21.8	40.4	26.6	30.71	87	.66	.92	—	Mostly clouded.
23,	30.017	29.888	29.870	29.8914	120	246	225	219	23.9	49.2	44.2	41.70	92	.71	.79	—	Clear a.m. Cloudy p.m.
24,	29.901	29.900	29.937	29.9194	229	264	206	232	42.4	52.0	41.3	44.71	90	.70	.80	—	Clear all day.
25,	29.981	29.943	29.945	29.9375	240	304	293	275	42.4	48.4	44.8	44.82	90	.90	1.00	—	Mostly clouded.
26,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Mostly clouded.
27,	29.907	29.856	29.875	29.8819	216	316	248	279	37.3	60.3	44.2	48.27	98	.61	.87	—	Clear all day.
28,	29.889	29.812	29.801	29.8361	265	332	241	273	45.4	59.9	49.0	48.42	88	.66	.70	—	Mostly clear.
29,	29.758	29.580	29.572	29.6221	188	299	316	311	37.0	60.4	50.6	54.59	86	.58	.87	—	Clear a.m. Clouded p.m. Sheet lightning
30,	29.605	29.665	29.718	29.6671	386	355	292	340	57.3	52.5	48.7	52.51	84	.91	.86	—	Clouded all day.
31,	29.617	29.403	29.336	29.4307	319	386	393	361	50.0	55.2	54.3	53.22	89	.90	.95	—	Clouded all day. Rain 6 to 7 p.m.
Mean	29.8217	29.7790	29.7691	29.7949	255	301	264	273	42.23	52.39	44.90	46.55	90	.74	.86	.83	Total, 1.850

Highest Barometer, .. .. . 30.945 at 9 a.m. of 29th.  
 Lowest do. .. .. . 29.313 at 6 a.m. of 1st.  
 Highest Temperature, .. .. . 64.0 on 10th, p.m.  
 Lowest do. .. .. . 18.0 on 24th, a.m.  
 Mean Daily Range, .. .. . 28.0 on 6th, p.m.—6th, a.m.  
 Extreme Daily Range, .. .. . 38.0 on 6th, p.m.—6th, a.m.  
 Proportion of Wind from each Quarter—  
 N.W. .. .. . 75  
 S.W. .. .. . 118  
 N.E. .. .. . 60  
 S.E. .. .. . 92  
 .. .. . 387  
 Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in decim. a.v. of an inch of Mercury, or the proportion of the Barometric pressure due to its presence.  
 Under the head of Humidity of the Air, is given the proportion the Aqueous Vapour bears to the quantity the air is capable of sustaining at the existing temperature, saturation being represented by 1.00.  
 The Instruments used are Standard Instruments. The Rain Gauge 37 f at above the soil.  
 The Means entered are the Means by 24 hourly Observations, from 6 a.m. to 6 a.m.  
 The quantity of Rain received each 31 hours, is noted at 9 a.m.

THE  
**BRITISH AMERICAN JOURNAL**  
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**MEDICAL AND PHYSICAL SCIENCE.**

Vol. 1.]

MONTREAL, DECEMBER, 1845.

[No. 9.]

**GUNSHOT WOUND OF THE HEART WITHOUT PERFORATION OF THE PERICARDIUM.**

By A. F. HOLMES, M. D., Professor of Medicine, McGill College.  
*To the Editor of the British American Journal of Medical and Physical Science.*

Though the publication of cases of unique character is of comparatively little importance, yet, as I am of opinion, no fact should remain unrecorded, of which there is a probability that it may hereafter become useful, I send you a statement of a very remarkable case that occurred to me in the month of December, last year, and which, should there ever be a new edition called for, of "*Les Cas Rares*," would richly deserve a place in that "*recueil*" of medical curiosities.

In the month of December, 1844, during the Municipal elections, a riot took place, in the course of which, an attempt was made by some of the parties engaged to force their way into a house occupied by their opponents. A young man of the name of Johnston, being the foremost of the assailants, was, while attempting to force his way up a staircase, fired at and mortally wounded. He lived but a very short time.

I was called to see him, and subsequently, at the request of the Coroner, and in conjunction with Dr. Hall and Dr. C. A. Campbell, I made an examination of the body.

Externally, several wounds were visible, (the musket having been probably loaded with buck-shot,) on the left side of the chest. Only one had penetrated its cavity. The shot had entered at the upper edge of the fourth rib just at its union with its cartilage, carrying off the edge of the bone. With the view of obtaining a better view, the left ribs were sawed low down, and then the sternum carefully raised. The appearances presented, were a bloody ecchymosed condition of the anterior part of the left lung as it laps over the pericardium; a bloody and infiltrated state of the cellular substance lying on the pericardium; and an ecchymosis of the extent of about  $1\frac{1}{2}$  inch, filling the anterior edge of the right lung, where it lies in contact with the pericardium. The pericardium evidently contained a large quantity of fluid, the nature of which was denoted by the colour of the membrane.

Feeling convinced of the perforation of the pericardium, I carefully cleared it of the adhering ecchymosed

cellular substance, a proceeding which I afterwards regretted, as it prevented our tracing what must have been the track of the ball. We then examined the left lung, and found it had been struck near its anterior edge, and the pleura covering it torn, showing a circular aperture, as if the ball had penetrated the lung—no corresponding aperture for its exit could be found, and a probe could be passed but a very short way into the substance of the lung. Nearly a pint of bloody serum, but without clots, occupied the cavity of the pleura. The pericardium was then examined with the greatest care, every part showing the least appearance indicative of the passage of the ball, being closely investigated. The sac evidently containing a large quantity of blood, it never occurred to us that the heart could have been wounded unless after the perforation of its envelope. Finally, supposing that the ball might have entered so as to produce a kind of valvular opening, I surrounded the pericardium with my hands, and squeezed it with considerable force. No fluid issued, and then, despairing of discovering the supposed perforation, I slit open the membrane, and gave exit to a large quantity of bloody serum and clots of blood. There was seen on the anterior wall of the heart, penetrating the right ventricle, a transverse linear opening without laceration at the margins, which were smooth and rather turned inwards, and sufficiently large to admit the finger. Feeling sure of now finding the ball, the finger was introduced. The septum ventriculorum was found uninjured, but no ball could be perceived.

The engorged portion of the right lung was then examined, and it was found that immediately within its edge, on the mesial aspect, a hole existed in the pleura, which did not, however, penetrate into the substance of the lung.

Finally, the lungs and heart were removed from the body, and there was then found lying in the right cavity of the pleura, a piece of lead of an irregular figure, about the size of a buck-shot.

Though unable to point out the track of the ball, yet the injury of the left lung, the bloody state of the cellular substance over the pericardium, the ecchymosis and wound of the right lung, the direction of the wound in the heart, and the discovery of the ball in the right

cavity, can leave no doubt as to its course ; but the wonder is, how the heart could have been perforated, while the pericardium was not. A question may be raised as to the possibility of the opening being caused by the spontaneous rupture of the heart, and not by the direct force of the ball ; and in this view, the case may present a subject of interest to the medical jurist.

To support this opinion, but two circumstances can, I think, be adduced: 1st, That the person was making strong exertion: and, 2d, That the pericardium was whole. The force of the former of these facts, however, is entirely removed, when we find that the opening had taken place, under different circumstances from those in which spontaneous rupture occurs: 1st, The person was not known to have laboured under heart disease, and the manner of his death makes it almost certain that he was in good health at the time. 2d, The heart was natural in size and consistence, perhaps below the average bulk. 3d, The aperture was in the right ventricle and towards the base, while in the very large majority of cases recorded of spontaneous rupture, the opening has been in the left ventricle, and towards the apex. 4th, The margins of the wound were not softened or ragged, but smooth, linear, and slightly turned in. 5th, The wound was longer on the peripheral than on the ventricular aspect.

With regard to the second ground for supposing the injury of the heart to have been caused by spontaneous rupture, viz., the integrity of the pericardium, I may remark, that however unlikely it might be that the pericardium should be found uninjured while the heart within it had been perforated, yet the possibility of such an occurrence is demonstrable from the analogy furnished by gunshot wounds in other parts of the body. Military surgeons have frequently narrated examples where balls had penetrated to a considerable depth, carrying before them folds of the shirt, handkerchiefs, &c., without perforating them. Thus Guthrie states the case of an officer who was wounded in the thigh. "I saw," he says, "that the shirt had gone in with the ball, and on pulling at the shirt it came out from the depth of *four* inches, a perfect cul de sac, having the ball at the bottom of it." Hennan, Larrey, &c., relate similar examples. Now, if a shirt or a silk handkerchief can be thus acted on, there can be no reason why a tough, strong membrane like the pericardium should not be similarly affected. Indeed, such an occurrence is actually on record. In the article "*Cas Rares*," in the *Dict. des Sciences Med.*, we have the following narration, "Un soldat ayant reçu un coup de feu à la poitrine, fut relevé presque mort: une hémorrhagie abondante faisoit désespérer de sa vie. A force de soins, le sang commença à couler avec moins de force vers le troisième jour: insensiblement les forces du malade

revinrent, la suppuration succéda à l'hémorrhagie: il sortit plusieurs esquilles d'une côté que la balle avoit fracturée. Au bout de trois mois, la plaie se cicatrisa, et le malade, rétabli, n'éprouvait d'autre incommodité que de fréquentes palpitations de cœur qui le tourmentèrent pendant trois ans. Il mourut d'une maladie étrangère aux palpitations, six ans après la blessure. M. Maussion fit l'ouverture du cadavre: il trouva la balle enfoncée dans le ventricule droit du cœur, près de sa pointe, *recouverte en grande partie par le pericarde et appuyée sur le septum medium.*"

Meckel in his manual of anatomy, refers also to the fact of the heart being wounded, without injury to its envelope. His words (translated by Doane) are, "Contusions of the chest, or the forcible penetration of foreign bodies, *as of musket balls*, also tear the heart, even when the parts surrounding this viscus are uninjured."

Entertaining no doubt, therefore, that the wound was caused by the direct contact of the ball, driving the pericardium before it, I think the manner of its formation may be more readily understood by supposing that at the instant of being struck, the heart was in the act of contraction, its fibres hard and rigid from their muscular action. In this state the ball suddenly impinging produced an effect similar to what happens to an over-braced harp-string when struck. The fibres snapped across. Allowing that the pericardium had been driven into the wound, it would probably soon have been forced out by the efforts of the heart to expel the blood; but this might probably have delayed the individual's death beyond the short time he lived after receiving the wound. It is, therefore, more probable that the ball, being nearly spent, did little more than graze the heart, being deflected by the tough pericardium, while the principal part of the solution of continuity was owing to the snapping across of the fibres in consequence of the shock. That the ball was nearly spent is evident from the little injury suffered by the right lung against which it struck with only force enough to perforate the pleura and induce engorgement, and then falling into the cavity of the chest.

Dec. 1, 1845.

## INFANTICIDE BY OMISSION.

By C. SMALLWOOD, M.D., St. Martin.

I was requested by a magistrate residing in this parish on the morning of the 31st May, 1840, to visit Zoe L—, who was suspected of Infanticide. It was about 43 hours after delivery. She was 19 years of age, of spare habit, slender make, and short stature. I found her in bed, countenance pale—pulse natural—mammary full, and somewhat hard, evidently containing milk—a milky fluid oozing out when pressed.

Areola dark coloured—abdomen wrinkled and flabby,

the cuticle streaked, and of a dark colour, uterus nearly doubled its natural size, and tender to the touch, os uteri open and relaxed. Lochia copious, her linen much soiled with it; says she did not know she was pregnant; says she has not menstruated for nearly two years.

I was requested by the same magistrate, the following day, to examine, post-mortem (55 hours after supposed death), the body of a female child, which had been exhumed for the purpose of holding an inquest. It had been interred about 36 hours, in a well-nut wood coffin. The body presented no external marks of violence, and but very slight marks of putrefaction. Measured 19 inches long, weighed 5lbs nearly. Umbilical cord cut about a hand's breadth from the belly and tied. Nails and hair well developed; cellular tissue filled with fat; gall bladder containing bile; meconium abundant in the large intestine; thymus gland large, and of a pale colour; lungs small, and of a dark violet hue, exposing the heart and pericardium, which appeared *proportionately* very large.

I removed the lungs and the heart from the thorax, and they sank in water to the bottom of the vessel. I then removed the heart and its appendages, and submitted the lungs alone to the same test, with the same result. I also obtained the same results from each lung separately. I then cut each lung into 15 or 20 pieces, and each of these pieces sunk to the bottom of the vessel; there was no distinct crepitation in any part of the lungs. The foramen ovale was perfectly open, and the ductus arteriosus was not contracted.

It appears from the evidence of Louis P—, which was corroborated by his wife, that on the 29th of May, 1840, they retired to bed about  $\frac{1}{2}$  past 9 p.m. (the house consisted but of one room, in which the prisoner, their servant maid, and two small children, slept in separate beds); that about midnight he heard the prisoner get out of her bed, and sit upon a bucket, which was used by the family (in lieu of a pot de chambre); that there was water in it, when he retired to bed. The prisoner remained upon the bucket for about 10 minutes, and then returned again to bed. While on the bucket he heard her moan, and discharge a quantity of liquid, which he supposed was from the bowels; he asked her if she was sick, and she replied that her menses, which had been retarded for nearly 2 years, had that moment commenced, and that she felt relieved. He recollected her appearing a little unwell the evening before, on going to bed.

The prisoner got up out of bed as usual about half past four A.M., and left the house, and was absent about ten minutes, during this time the witness and his wife rose, and his wife directed his attention to the bucket, which contained a female infant, with the placenta attached and some clots of blood. While they were making this

examination the prisoner came in, and when they accused her of the crime she made no reply. They separated the child from the placenta, and it was buried in the afternoon of the same day. They swore positively they heard no child cry. The infant, as well as the coffin, was duly identified.

I examined the bucket. It was of common size 9 $\frac{3}{4}$  inc. deep, and the witness swore that there was at least 5 inc. of water in it when they retired to bed. The rupture of the membranes, and the escape of the liquor amnii, would necessarily increase the height of the fluid, and from the spare make of the prisoner, her buttocks would descend considerably into the bucket, and added to this, before the fœtus could escape the os externum, the perineum would be advanced some little more, which left scarcely a doubt that the child was carried by the uterine efforts directly from the vagina, into the water contained in the bucket, and that it never respired, which was borne out by the post mortem examination. Such was my opinion at the inquest, and I there stated that from the post mortem appearances, I was of opinion that the child had not breathed.

The jury returned a verdict that the child came to its death by "negligence and simplicity," on the part of Zoe L—. The prisoner was sent to the Montreal Prison, and at the quarter sessions she was discharged without a trial, the Grand Jury finding no bill.

I find that a somewhat similar case occurred in London in 1842, when a woman attempted to destroy the child by immersing its head only in a bucket of water. The child was discovered and resuscitated.

While on this head, I may relate a case similar to one that appeared in your August number, related by Dr. Sewell, of Quebec, but with opposite results; where the woman, aged 40, was walking across her room when a violent pain came on, and expelled the child, which fell upon the floor. The umbilical cord broke about a hand's breadth from the belly of the child. I arrived just at this moment. There was some little irregular action of the uterus, which gave rise to considerable hæmorrhage. The child received no injury, and both the mother and child did well.

#### CASE OF SEVERE GUNSHOT WOUND IN THE KNEE.

*Amputation of the thigh, followed by irritative fever and retraction of the muscles, terminating fatally.*

By ALEX. ROWAND, M. D., Montreal.

Between two and three o'clock P. M., on the 19th of October last, I was sent for in great haste to visit Mr. P—, who, I was informed, had received a severe wound in the knee, from the accidental discharge of his fowling-piece. Accompanied by Dr. Badgley, I immediately proceeded to the spot where the unfor-

fortunate event had taken place, which was at the end of the island, about thirteen miles from Montreal. Arrived at the Ferry-House, at about half-past six o'clock P.M., we there found our patient with his left leg and thigh bandaged up, and were informed that about noon, his gun, which was resting with the muzzle close to his knee, was discharged, by his dog running against it, and the whole of its contents were lodged in his thigh. On examination, we found the charge had entered on the inner side of the left knee, about an inch from, and a little below, the patella. It had taken a direction upwards and outwards and lodged itself on the outer part of the thigh, immediately under the skin—about two inches and a half from the knee-joint. The patella was uninjured, but the lower end of the femur, to the extent of about two inches, was completely crushed, and broken up into small fragments. The patient was a gentleman of about 30 years of age, of a florid complexion, of a sanguine-nervous temperament, and of very active personal habits. He had always enjoyed excellent health, but for the last six weeks, had been very closely engaged in business, which had occupied him in his counting-house, from a very early hour in the morning till very late at night. His pulse, when we saw him, was 96, and not very full.

In consultation with Dr. Sinard, an intelligent practitioner from the neighbourhood, it was determined, that as the extent of the injury entirely precluded all possibility of saving the limb, amputation should be resorted to, without loss of time, with the view of preventing, if possible, the subsequent occurrence of those dangerous symptoms which are so apt to take place after injuries of this nature. It was also determined that it would be highly imprudent to remove our patient to the city before the operation, as we considered that the delay which would necessarily be incurred, by having to send to Montreal for a proper conveyance, and the additional nervous irritation that would be excited by the performance of a journey of thirteen miles, under such circumstances, would materially interfere with its successful result. An immediate operation was therefore determined on, and on our views having been communicated to the patient, he at once yielded to the necessity of the case and consented to its performance.

There being no proper accommodation for him where he then was, he was conveyed to the house of Mr. Ross, on the Isle of Bourdon, where he could be conveniently attended to; and at six P.M., I proceeded to remove the limb by the circular operation at the lower third of the thigh—four vessels were tied, and the integuments were brought together by three sutures.

The stump had a good appearance, and the end of the bone was well covered. The limb seemed somewhat fuller of blood than usual, which probably arose from some impediment to the venous circulation caused by the original injury. Our patient, who had borne the operation with remarkable fortitude, was then placed in bed, and an anodyne of 60 drops of laudanum was administered.

For the three first days every thing went on well, the patient remaining free from fever, and expressing himself as quite comfortable; pulse generally about 90.

On the 23rd, four days after the operation, the bandages were removed for the first time: the wound looked remarkably well, with slight suppuration, but the patient complained of the pain caused by the dressing. Pulse slightly accelerated but soft—tongue moist and clean—bowels acted on by an anema—urine copious—had slept well during the night, but was observed by the person who sat up with him to be restless during it, often changing the position of his head, and moving his arms about—to have an anodyne at night.

24th.—Passed a restless night, and complained of uneasiness in the stump—had disturbed dreams about his business during the night. Stump was dressed in the presence of Dr. G. W. Campbell, who had been requested to attend, and found looking well, but the operation of dressing again gave rise to a good deal of irritation. Pulse quicker but soft and compressible—skin moist—tongue clean—bowels open—urine copious and clean. On the evening of this day, an unusual noise being heard in his room, I (having remained in the house) was immediately called, and found him giving utterance to a loud, prolonged, and somewhat shrill, moaning cry; his mouth was drawn considerably to the right side, and he seemed to be suffering from a pretty severe spasmodic attack. These symptoms however soon subsided, and during the rest of the night he slept, but rather uneasily.

25th.—Countenance anxious—body bathed in perspiration—pulse 116, small but soft—tongue moist—bowels open—urine copious—has had a rigor terminating with a hot stage and copious perspiration. To have small doses of quinine with acid four times a day, and to be allowed London Porter with oysters.

26th.—Stump dressed again to-day, and the wound appeared healthy. Countenance slightly flushed—pulse and secretions as yesterday. Had a glass of Dow's ale instead of porter, as there was no porter in the house. Dr. Campbell suggested the propriety of discontinuing the prescription of yesterday, which was accordingly done.

28th.—Report the same as yesterday and on the 26th.

29th.—Passed a restless night and talked a good deal. Pulse and secretions as at last report.

30th.—Stump dressed again to-day. Some retraction of the muscles, and the end of the bone exposed—healthy granulations at each side. Two of the ligatures came away in the dressing—had another rigor during the night—other symptoms as formerly.

31st.—Report the same as yesterday. Ordered to re-commence the quinine and porter.

Nov. 1st.—Patient appears somewhat better, though pulse is at 120 and rather weak—is very desirous of being conveyed to town—had an agueish fit during the night, and passed his feces involuntarily whilst asleep, owing, probably, to the action of a purgative he had taken during the day.

2nd.—Was removed to town by the Steamer—at six P. M., the stump was dressed—about a quarter of an inch of the bone was exposed, and found to be denuded of periosteum—on consultation it was determined that this should be removed, which I accordingly did with a metacarpal saw—a good deal of pain was caused by the operation, and an anodyne was administered.

3rd.—Had another agueish fit at five o'clock this morning, which lasted about two hours—pulse 120—weak—bowels open—urine copious, and skin bathed in perspiration.

This state continued without much alteration until the 10th, when it was determined to have recourse to the sulphate of quinine, in 2 gr. doses, with a glass of Madeira wine every three hours.

On the 12th, severe rigors came on which could not be controlled, and he lingered till the 15th, when he expired at 4 o'clock A. M.

On the morning of the 13th, when the stump was dressed for the last time, it was observed that the union which had taken place in the integuments covering the lateral portions of the stump had been broken up, and on the 14th the secretions from the wound were entirely arrested. Unfortunately no post-mortem examination could be obtained.

The above case presents several points of much interest, as evidencing a very peculiar idiosyncrasy of a morbid character, in a previously very healthy person; and having been lately in New York, I was induced to express these points, in the form of interrogatories, and lay them before Dr. Robert Nelson, of that city, and formerly of Montreal, for his opinion. As he is a Surgeon whose great practical skill and professional attainments are so, where more highly appreciated than in this city, I subjoin them, along with his answers, for the perusal of your numerous readers.

Having heard the verbal statement of Dr. Roward,

and read the written one by Dr. Badgley, descriptive of the case of the late Mr. P—, the undersigned replies to the several questions submitted to him for his opinion, as follows:—

Question 1st.—Was the nature of the injury and the condition of the patient's constitution such as to demand immediate amputation?

Reply.—Yes; for the following reasons: 1st. The extensive laceration of the membranous parts, and more extensive fracture of the head, and condyles of the femur were such as to banish all hope of saving the limb. 2nd. Since no hope of restoration of the limb remained, and knowing that the severity of almost all surgical cases is proportionate to the extent of severed surface, no rational or experienced Surgeon could hesitate on the propriety of diminishing such extent; and as amputation not only offered the means capable of effecting such diminution, but also would become indispensable at a future time, should the patient survive the first periods of the injury, it was undoubtedly called for. 3rd. Six hours from the moment of the accident to the time when amputation was performed, was a period amply within the one, beyond which, in certain cases, grave operations ought to be further delayed. 4th. There was nothing in the temperament, as stated, of the patient, either of a depraved habit, irritable or inflammatory nature, capable of offering an objection to early amputation, more especially as that operation would undoubtedly diminish the extent of injury, and subsequent effects.

Q. 2nd.—Did the condition and circumstances of the case justify an antiphlogistic treatment to its full extent, or not?

R.—Certainly not. The patient must have lost several ounces of blood from the accident; and at the operation "more blood was lost than is usual." The first, and particularly the second hemorrhage, was well calculated to anticipate any excess of inflammation capable of supervening, and which is never sufficiently great, in injuries of limbs, to require "the full extent of the antiphlogistic treatment." And subsequent to the operation, the case does not offer a single symptom of high inflammation; but on the contrary, the moist tongue and skin, copious and pale urine, were all indicative of any thing else than greatly excited vascular action. Under all these considerations, an antiphlogistic treatment, to its full extent, would have hastened the fatal termination of the case.

Q. 3rd.—Were the rigors the result of phlebitis and secondary deposits, or merely produced by the shock sustained by the brain and nervous system?

R.—The absence of athenic-vascular symptoms, and prevalence of systemic irritability, strongly lead to a

belief in the existence of the condition mentioned in the first member of the query; but, as no autopsy was had, and as similar cases to the one in question are not very uncommon, even when phlebitis and purulent deposits have not been detected on examination, after death, this interrogatory cannot be affirmatively answered. As regards the remainder of the question, "were rigors produced by the shock, &c.," there can be no hesitation in saying that the *shock effect* of the accident had passed off safely, and that these rigors were synchronous with the invariable phases and periods of purulent formations.

Q. 4th.—Was the removal of the exposed bone advisable, under the circumstances, or not?

R.—The disturbance to the constitution, producible by a protruberant femur, after an amputation, is much less than many Surgeons are led, from inexperience, to believe. As a general rule, it had better not be touched until all the first consequences of the operation have run their course.

Q. 5th.—How is retraction of the muscles and exposure of the bone to be accounted for?

R.—Retraction is always due to irritability, either general or local. Under the first, the patient imminently suffered.

Q. 6th.—Which operation, the circular or the flap, ought to have been performed.

R.—Either one would do well in ordinary circumstances. The advantages afforded by the latter operation are in its favor; but it is only the shallow followers of novelty who suppose that good cures are not daily made by the circular mode. Are there not thousands of persons now living with good stumps, the amputation having been the circular operation.

R. NELSON, M. D.

REPLY TO DR. RÆ'S OBSERVATIONS ON THE  
HYPOTHESIS OF THE PREVIOUS EXISTENCE OF  
A FRESH WATER INLAND SEA ON THE CONTI-  
NENT OF AMERICA.—CONTINUED.

By REV. W. T. LEACH, A.M.

In a previous paper published in the *British American Journal* of April, I took occasion to notice the existence in the valley of Cassel in Germany, of water-formed terraces similar to those which form such prominent phenomena in Canada. These terraces were long ago remarked by Ræpe, who published a section of the valley with a description exhibiting the level of an ancient sea. In this case the fossils deposited in the superficial strata leave no doubt that the German Ocean then extended over the inferior levels of the Continent, while, as Ræpe has observed, the highest summit of the higher mountains which enclose the valley must needs, as so many islands, have been apparent above the level of this ancient sea. The fossils are numerate, and are a

known species, common on many shores of the Northern Seas. Here then we have a case exactly parallel to the one in question, and corresponding, as both do, in every material circumstance, some value must attach to the evidence hence derived, especially when no other similar instance can be referred to of an inland fresh-water sea attended with effects so closely resembling each other in the respective instances. This, and a few instances recorded by geologists, were adduced as evidence for the view advanced in the April number of the *British American Journal*.

I observe that a late writer, whose work since then has reached us, makes a special reference to the subject in the following terms:—"There is another set of appearances which as manifestly show the steps by which the land was made afterwards to reappear. These consist of *terraces* which have been detected near, and at some distance inland from, the coast lines of Scandinavia, Britain, America, and other regions, being evidently ancient beaches or platforms, on which the margin of the sea at one time rested. They have been observed at different heights above the present sea level, from twenty to above twelve hundred feet; and in many places they are seen rising above each other in succession to the number of three, four, and even more. The smooth flatness of these terraces, with generally a slight inclination towards the sea, the sandy composition of many of them, and in some instances, the *preservation of marine shells in the ground, identify them perfectly with existing sea-beaches*, notwithstanding the cut and scoopings which have at frequent intervals been effected in them by water-courses. The irresistible inference from the phenomena is, that the highest was first the coast-line; then an elevation took place as the second highest became so, the first being now raised into the air and thrown inland. Then upon another elevation, the sea began to form at its new point of contact with the land, the third highest beach, and so on down to the platform nearest to the present sea-beach."

The same writer proceeds to state various facts that corroborate the general account he has just given, of the cause of the phenomena presented by the marginal lines or terraces. He gives us to know, that evidence has been advanced, that the last sixty feet of the elevation of Sweden, and the last eighty-five of that of Chili, have taken place from the commencement of the human memorials that have come down to us; he even states it as a matter thought to have been ascertained by evidence, that the process of elevation in Sweden, takes place at the rate of forty-five inches in a century; nor is it improbable, that this rate might be found with some accuracy, provided it be restricted to a limited geological period, and is not understood, as pretending an approxi-

mation to a rule, by which the elevation of extensive regions may be computed to have taken place at previous periods. After mentioning the instance of the rise of the Chilian Coast in 1822, he adds, "In an inquiry on this point, it becomes of consequence to learn some particulars respecting the levels. Taking a particular beach, it is generally observed, that the level continues the same along a considerable number of miles. A second and third beach, are also observed to be exactly parallel to the first. These facts would seem to indicate quiet elevating movements, uniform over a large tract. It must, however, be remarked that the raised beaches at one part of a coast, rarely coincide with those at another part, forty or fifty miles off. We might suppose this to indicate a limit in that extent of the uniformity of the elevating cause. But, whatever doubt may rest upon this minor point, enough has been ascertained to settle the main one, that we have in these platforms indubitable monuments of the last rise of the land from the sea, and the concluding great event of the geological history."

Whatever credit the conclusions of geologists may generally be thought worthy of, it must be admitted that they act fairly, if they fairly exhibit the grounds that sustain them. You have the facts, judge of the conclusions who will. It is true, that in natural science, many facts advanced as such, may, upon attentive sifting and careful examination, be found to have no title to that character, they are then only stubborn things, when they are found to be true things, and the finding them to be so or not, together with the multiplication of them by the industrious observation of the student, constitutes the chief value of the inductive philosophy; and if the additional facts which the author, whose views upon this subject I have transcribed, are to be depended upon, and that under the limitation that has been assigned to the most remarkable of them, I hold the question as to the formation of the parallel lines by the waters of the ocean, and consequent negation of any inland fresh-water sea as their cause, to be a conclusion as valid as the nature of the evidence, which in such cases is necessarily but of greater or less probability, permits us to attain.

Speaking of the Canadian Lakes and Valleys of the St. Lawrence as phenomena, whose cause might be explained, in harmony with the hypothesis of a gradual, though irregular elevation of the continent, reference was made by me to the insufficiency of the water-scooping theory; and the formation of the Lakes was attributed to unknown causes which excepted their internal or lower superficies from the operation of the elevating force or forces. As to the cause of these exceptions, nothing was alledged; represented as *intercapedines*, no closer approach was made to a hypothetical assumption of the

causes; and such they may be, leaving the nature and quality of the subterranean forces untouched—nothing written, nor said, nor, it may be, supposed, concerning them. Either the force was not there equally directed upon the interior of the extended mass, or if it were, did the mass oppose an equal resistance. Dr. Rae very properly remarks with regard to this, that in the present state of our knowledge, it is premature to pass an opinion, or nearly in words to that effect. It may be said, however, that the opinion then announced, has no reference to the immediate causes, and leaves the whole inquiry, respecting them, open to investigation. I consider this inquiry to be one of the greatest possible moment in geological science, and that there are no phenomena which the extended territory of Canada presents, nearly so deserving observation and study.

## SURGERY.

### FISTULA IN ANO TREATED BY LIGATURE.

By ——— LUKE, Esq.

The following cases are illustrations of the treatment of fistula in ano by ligature kept moderately tight, by means of a small screw tourniquet, thus gradually dividing by ulceration those parts usually divided by the knife.

The advantages of this method of treatment over the treatment by the knife are,—1st, The shorter period which usually elapses before the final cure; 2nd, The less pain which is usually experienced during the treatment; 3rd, The absence of all cause of dread of the knife, and the consequent inducement which it offers to the timid to an effective curative treatment; and lastly, the avoidance of all danger from bleeding—an advantage of great importance in the deeper forms of fistula which communicate with the rectum at a considerable distance from the anus. The treatment is conducted in the following manner:—An eyed probe, armed with dentists silk, is introduced in the ordinary way through the fistula into the rectum, from whence the silk, together with the detached extremity of the probe, is withdrawn through the anus by means of a spring catch introduced into the rectum upon the forefinger of the operator.

The parts to be divided are thus enclosed between the two extremities of the ligature, to which a small fistula-tourniquet is subsequently attached by passing them through holes provided for the purpose, and knotting them so as to prevent their being withdrawn. A screw is then applied, by the turning of which the requisite amount of tension is kept up. When the fistula does not communicate with the rectum, a perforation is made in its walls by the eyed probe, the extremity of which is made sharper than that ordinarily used. In other respects, the passing of the ligature, and the attachment of the tourniquet, is conducted in the same manner as when there is both an external and internal opening. It should be observed, that the passage of the ligature is accomplished with great facility, and with little if any more pain than attends the ordinary examination of a fistula with a common probe. Care is also taken that the tension of the ligature is never so great as to cause more than slight uneasiness at the part, and at its first application is usually left loose, to allow for swelling of the enclosed part arising from the slight inflammation which is caused by its pressure. After the lapse of three or four days, ulceration of the enclosed part commences, and the



tourniquet becomes loosened, indicating the necessity of the ligature being made tighter. This is done every three or four days, by making two or three turns of the screw with a watch-key fixed on a handle. While the process of ulceration is proceeding, a process of granulation is filling up the cavity behind the ligature, and on this account it is not desirable that the ulcerative process should proceed very rapidly, lest the latter should not proceed *pari passu*, and a cavity be left unclosed. When a case has proceeded favourably, it usually happens that it may be reported as cured within one or two, or at most a few days after the complete division of the enclosed parts and consequent falling off of the tourniquet. During the treatment, it is desirable that causes tending to produce inflammation should be avoided, but in many cases the confinement of the patient is unnecessary, and moderate exercise may be used. Should inflammation, however, supervene, much pain is experienced by the greater tension given thereby to the ligature, the obvious remedy for which is the loosening the ligature by reversing the screw of the tourniquet.

[Mr. Luke then relates nine cases in which this method was tried. In the first the ligature was applied on the 6th of March, and came away on the 17th—11 days. In the second the ligature was applied March 25th, and came away April 9th—15 days. It was applied in the third case May 2nd, and came away on the 11th—9 days. The average time that elapsed between its application and its coming away was about a fortnight, and a few days more were generally required before the parts were perfectly healed.]—*Lancet*, Feb. 22, 1845, p. 221.

[Mr. Lomas, of Manchester, gives us his method of using the ligature in fistula in ano, as follows:—]

I employ a fine metallic wire of silver or platinum. Having passed a probe director (one of Sir Benjamin Brodie's) along the fistula and through its internal orifice, its point, being very flexible, is readily directed downward and out at the anus, by the finger previously introduced within the rectum; the structures to be divided are now upon the instrument, and, as it were, everted. The wire is then passed along the groove of the director, and the ends are crushed together until a very moderate compression is exerted upon the enclosed parts. It promotes the personal comfort of the patient to leave the twisted ends rather long, and to fix them on the sacrum with a cross slip of adhesive plaster. This trifling arrangement allows the buttocks to lie perfectly apposed, and he (the patient) is free from the disagreeable sensation of an interposed body or rough point, and visits the closet more comfortably. All that remains to be done is to twist up the ligature as it becomes slack, and in a week, or a little more, it is free. I do not confine the patient altogether; it is, however, advisable to keep him on the sofa for the first twenty-four hours, as erysipelas might arise in a bad subject, and also to limit his movements considerably during the entire treatment.

[He remarks, that he has found no strong reason to prefer it to the knife, and thinks that the plan of presenting the parts for division upon Sir B. Brodie's probe director, and dividing them with a sharp bistoury, is an operation so short, simple, and effectual, as to leave nothing to be desired.

The opinion of Mr. Luke, of the London Hospital is, that the ligature consumes decidedly less time in establishing a cure than the knife.]—*Medical Gazette* March 14, 1845, p. 766.

[Mr. Henry Burton, surgeon, Stoke Newington Road, from personal experience, gives a decided opinion against the ligature. Its application gave much pain in his own person, and caused great irritation; in a fortnight a second ligature was applied, which gave him dreadful torture, so that five days after he was obliged to have it cut out, the local and constitutional irritation became so great. Besides this, the irritation produced fresh suppuration, and two additional sinuses, for which he was operated on in the usual

manner, and he declares that the whole of the pain was not a tithe of what he suffered under the ligature martyrdom.

A medical friend of Mr. Burton's underwent precisely the same ligature treatment, but found it so intolerable that he soon gave it up, thus escaping the aggravation of the disease entailed upon Mr. B. for his perseverance.]—*Lancet*, April 12, 1845, p. 427.

[Mr. Luke, in reply to Mr. Burton, considers that the ligature was not properly applied in Mr. B's case, and from nothing being said regarding the amount of tension subsequently used, we cannot judge whether the practice was such as Mr. Luke recommends.]

Now, in order that the ligature should be properly managed, it is necessary that it should not at any time be drawn so tense as to cause pain, and generally for the first few days should be left without any tension whatever upon it.

[As Mr. Burton speaks of the insertion of a second ligature. Mr. L. thinks it probable that the operator possessed no means of gradually increasing the pressure, and, therefore, that the first ligature was drawn at least moderately tight, which of itself would cause considerable pain, even without the increased tension given to it by the swelling of parts subsequently to its insertion.

Mr. L. also expresses it as his opinion,]

That the slow operation of the ligature may with advantage be made extensively available in practice, beyond its application to fistula in ano merely, as in the obliteration of veins when varicose, either in the leg or in the spermatic cord; in the removal of tumours, when they are so vascular or so situated as to render the use of the knife dangerous; or in certain cases where the dread of the knife cannot be surmounted; and lastly, in laying open extensive sinuses, where, from their magnitude, the use of the knife would be attended with danger, or where, from the intervention of vessels, there might arise a risk of dangerous hæmorrhage.

In all the above cases, (in varicose veins of the leg excepted) I have availed myself of the slow operation of the ligature, and I think with much advantage to the patients who have experienced its use.]—*Lancet*, April 26, 1845, p. 482.

[The following is a description of a new instrument for applying ligature in fistula in ano, by Dr. Nelken:—]

This instrument is composed: 1<sup>o</sup> of a rod, about 11½ inches in length, the upper third of which is divided into four equal parts, united to each other by hinges, so arranged, that they can be closed only in one direction, the last being furnished with a knot, and a hole to pass the ligature; and 2<sup>o</sup> of a tube through which the former is passed when threaded. The finger being placed in the rectum, the apparatus thus prepared is passed upwards into the fistula, until the extremity reaches the finger, the tube is then withdrawn to an extent equal to one of the four divisions of the rod; the whole is next pushed forwards, the finger in the rectum causing the rod to bend downwards as it penetrates into the intestine; the same manœuvre is repeated until the ligature appears at the anus, when the surgeon seizes it, and terminates the operation.]—*Medical Times*, Feb. 8, 1845, p. 403.

#### ON RELAXED RECTUM.

By HENRY HUNT, Esq., M. D.

Dr. H. describes this as a malady of not unfrequent occurrence, and productive of much inconvenience and distress. The most prominent symptoms are, obstinate constipation, a frequent desire to evacuate the bowels, a constant sensation of load in the rectum—which is not relieved by an evacuation—and the discharge, after much forcing, of mucus streaked with blood. The bladder, urethra and the adjacent organs, often participate in the irritation. On examination, the rectum will be found preternaturally enlarged, and more or less filled with large folds of mucous

membrane pressing down on the anus, which impede the evacuation of the fæces, introduction of instruments, and the injection of enemata. This morbid condition of mucous membrane, the author attributes to a neglected state of the bowels, and repeated great distension of the rectum by fæces, which causes the mucous membrane, when the bowel is empty, to hang in loose folds. This disease, if neglected or mismanaged, gives rise to prolapsus ani, an irritable and painful state of the sphincter, and an intro-susception of the upper and undilated portion of the intestine, into the lower and dilated part. The treatment recommended for the simple relaxed rectum is, the avoidance of all aperient medicines, and the injection of a pint of cold water into the bowel every night previous to going to bed, the removal of the prolapsus, and the application of belladonna ointment to the irritable sphincter. In the case of intro-susception of the rectum, in addition to the use of the cold water injection, the exhibition of some mild aperient, taking care that whilst a costive and hardened state of the fæces is prevented, purging is avoided, and a course of the hyd. cum creta, with hyoscyamus or conium, or the iodide of potash and sarsaparilla.

[Dr. James Johnson disagrees with Dr. Hunt with respect to the use of mild aperients. He considers them to be essential to the successful treatment of the affection. He says—]

In cases of constipation, it is essential to effect a cure that the colon as well as the rectum should be acted upon. Fæces often collect above the rectum, and cannot be reached by small injections of cold water. These injections are, moreover, not so harmless as people seem to imagine; at all events, he has seen them productive of violent tormina and great pain; in some instances, producing faintness. He would, in this class of cases, administer some mild aperient, which would act on the colon, and soften the fæces in that tube—such, for instance, as the tartrate of potash or the confection of senna.

These medicines produce no irritation or unavailing efforts to evacuate the rectum: on the contrary, they soften the fæces above, and soothe rather than irritate. In the second class of cases mentioned, in which there was intro-susception of the rectum, he has found Ward's paste corrugate the folds, and give tone to the heart. In this class of cases, when the bowels have protruded, and have not been carefully returned, it was liable to become inflamed, and be productive of great suffering. When persons so afflicted walked about or sat down, this was liable to occur. The most efficacious mechanical contrivance with which he was acquainted for the support of the rectum *in situ*, was the application of two silk handkerchiefs, one of which was to be passed round the waist, and one end of another tied behind, and the other end in front—a piece of soft sponge, covered with linen, being placed in the middle, so as to exert gentle pressure on the extremity of the bowel. This was simple, and easy of application. All instruments for the purpose he had found inefficient.

Mr. Bransby Cooper agreed with Dr. Johnson in reference to the expediency of applying remedies that would act on the colon in the first class of cases described by Dr. Hunt. He considered, however, that the application of handkerchiefs in cases of prolapsus recti, as recommended by Dr. Johnson, was far inferior as a remedial agent to the plan mentioned in the paper—namely, that of evacuating the bowels at night, just before retiring to bed. In diseases of the rectum, this rule was one of the greatest importance. If the bowels were evacuated in the morning, the patient either moved about, or remained in the sitting posture, by which irritation was kept up, and there was no opportunity of keeping the rectum *in situ*. When evacuated just before bed-time, the patient remained in the recumbent position for many hours, and the affected bowel was, during the whole of that time, in the pelvis. By this simple plan

a cure was effected without the use of instruments or of medicine, both of which combined would only alleviate and not cure.

[For the support of the rectum in these cases, we have found an instrument made by Mr. Earland of Leeds, of the greatest service and efficacy. It consists of a circular spring to go round the loins something like the common truss. To the posterior part of this is fixed another spring, which is brought down as far as the anus and terminated by an ivory ball, and fixed in front like a suspensory bandage by two side straps. This ivory ball, which is oval in shape, keeps up the gut very effectually, in the same way as a prolapsed uterus or a hernia is kept up.]—*Lancet*, Dec. 7, 1844, p. 326.

In cases of constipation from relaxation, aloes in combination with sulphate of quinine was a favourite prescription of Dr. Abercrombie, and often succeeds remarkably well, especially in persons advanced in life.

In cases of great dilatation, might not injections of nitrate of silver be of service, administered as recommended by Trousseau in the diarrhoea of children? (See *Northern Journal of Medicine*, vol. i. p. 347.) It has a great effect in producing contraction of the calibre of the vagina.

In the habitual constipation which so often produces this affection, Dr. Graves, after objecting strongly to the use of mercurial purgatives, recommends the following combination:—

℞ Electuarii sennæ ℥ii.; pulv. supertart. potass. ℥ss.; Carb. ferri ℥iii.; Syrupi Zingib. q. s.—Ft. electuarium.

The dose must be regulated by its effects, but in general a small tea-spoonful in the middle of the day and at bedtime will be sufficient.

Dr. Graves says, that the value of carbonate of iron as a tonic aperient has not been appreciated.—*Northern Journal of Medicine*, Jan. 1845, p. 185.

## ON THE DIAGNOSIS AND TREATMENT OF FRACTURES.

By — STANLEY, Esq., of St. Bartholemew's Hospital, London.

In certain cases wherein the occurrence of fracture is not plainly indicated by the mobility or distortion of the part, or by the existence of crepitus, there is one strongly presumptive sign of it, the attention to which has often helped us in doubtful cases, especially in the instances of fracture of the lower end of the tibia and fibula, also of the head of the tibia; this sign is, an acute tenderness of the periosteum manifested in handling the part, combined with deep-seated œdema from serous effusion into the cellular tissue around the periosteum. An experienced hand and eye will readily distinguish these circumstances characteristic of fracture, from the general swelling and tenderness of the soft parts, the result of simple contusion. A man at the present time in the hospital was admitted shortly after he had slipped down in the street; there was no distortion of the leg, and no yielding or crepitus could be anywhere detected; but such was the acuteness of the pain occasioned by pressure of the lower part of the tibia, with the evidence, besides, of the deep œdematous swelling over this part of the bone, that the fracture of it was suspected; and accordingly the limb was confined in splints. Ten days afterwards, an oblique ridge on the lower and front part of the tibia shewed that the bone was broken, and that the diagnostic sign of the fracture had been of some value in determining the treatment. Crepitus is frequently but a doubtful sign of fracture, especially in the injuries of bones near their articular ends; here it may be caused by an alteration of the synovia within the sheaths of the surrounding tendons, or within the contiguous joint; and, in injuries of the hip or shoulder, when the displaced head of the femur or humerus lies in contact with a surface of bone beyond the articular

cavity, in moving the limb a grating sensation may then be communicated to the fingers, so closely allied to that of fracture, as to be with difficulty distinguishable from it. In the shoulder, for instance, when the head of the humerus is driven between the subscapularis muscle and the scapula, the movements of the arm will communicate to the hand of the surgeon a grating sensation not distinguishable from the crepitus of fracture. As it concerns the diagnosis of fracture, it must be borne in mind, that by the operation of the force which has broken a bone, its ends may get so firmly impacted together, as not to be separable without violence; hence it has happened that a man with both bones of his leg broken has been able to bear considerable weight on the limb. I had a patient whose tibia and fibula were broken about their middle, by the kick of a horse; yet he contrived, with the help of a stick, to walk from Highgate to the hospital, a distance of between four and five miles. Under circumstances of doubt, assistance in the diagnosis may be obtained by ascertaining in what manner the accident occurred; and here it is to be recollected, that a shock imparted to the distant part of a limb may cause the fracture of the shaft of the femur or tibia. A man had just raised a sheep-hurdle from the ground, and was holding it in his hands, when a gust of wind turned him round with the hurdle; the great toe of his left foot coming against a stone, he immediately felt and heard his leg break; his wife, and another man standing by, also heard the crack. He was directly brought to the hospital, and the tibia was found broken in two places, transversely through its middle, and obliquely through its lower third. Also, on occasions when it would not be expected, an inordinate or spasmodic action of the muscles surrounding a bone may cause its fracture. A coachman, in descending from his seat, felt a sudden twist in his limb; and from that instant he was unable to bear weight on it; he contrived to reach the ground on his other leg without falling, and was directly brought to the hospital, when there was ascertained to be a fracture of the shaft of the femur, just below the trochanters.

*Adjustment of fractures.*—For this object, in many instances, nothing more is required than that the limb should be placed in an easy posture; directly this is done, the ends of the bone adjust themselves perfectly well. And I have learned by experience, that when one fair effort, by the extension of the limb and manipulation of the broken bone, has failed to effect the adjustment of its ends, there is but little probability of success from a repetition of the same proceedings, to which the obvious objections are, the severe pain they occasion, and the injury they do to the surrounding soft parts. When one well-directed effort by extension of the limb and manipulation of the broken bone has failed to effect its adjustment, we must trust to the chance of its adjusting itself; and if it does not do so, we may assume the existence of one or other of the following obstacles to adjustment, over which extension of the limb, or other proceeding we may adopt, can have but little influence—that the displaced ends of the bone have become firmly impacted together; or that the bone has been broken in two places, and the middle piece displaced, upon which the extension of the limb has no effect; or that a displaced tendon or muscle has got between the ends of the bone; or that one end of the bone has been driven into, and has become firmly impacted in the substance of an adjacent muscle; or that the muscles on one side of the limb having been lacerated, the muscles on the opposite side, their antagonists, acting inordinately upon the broken bone, have displaced it.

[Fractures which are slow of union are happily much more common than fractures which will not unite. Until a few years back, if it were ascertained that a fracture at the end of the usual period had not united, splints were applied, and the patient had still to keep in bed, and if the bones remained ununited after a few weeks more, the fracture was declared incurable.]

But we have now learned by experience that in the event of a fracture failing to unite within the usual period, methods are to be adopted far more gentle, and, what is more important, far more likely to be successful, than any one of the severer proceedings just indicated. These methods are, exercise of the limb for the advantage of the action of the muscles surrounding the broken bone, maintenance of firm pressure against the portions of bone, that they may be kept steadily in contact, and if possible by their periosteal surfaces.

*Influence of the action of the muscles around the slowly uniting fracture.* Of this there can be no doubt; it is evidenced to us in the many instances of fracture of the tibia not firmly united within the ordinary period, wherein the patient has been desired to move about on crutches, not bearing weight on the limb, but swinging it about freely, and in a short time the uniting medium, which was flexible, is found to be perfectly firm. I lately had in the hospital a woman, aged 32, with a fracture of the femur, at the junction of its upper and middle third; it was treated strictly by confinement on the back with the application of a long splint to the outer side of the limb. At the expiration of two months, the ends of the bone were ascertained to be freely moveable. The thigh was then kept firmly encased in leather splints through the next two months, at the expiration of which the ends of the bone were found to be still freely moveable; it was now determined again to apply the leather splints in a manner to maintain firm pressure against the ends of the bone, and besides, to encase the thigh in the splints composed of layers of linen cemented together by the mixture of white of egg and flour, and around these to apply the starched roller. The limb being thus secured, the patient was desired to move about freely on crutches. Almost from the commencement of this plan, the woman began to express a consciousness of firmness in the limb of which she had not before been sensible. After another six weeks, the bone had become so firm that she could bear weight upon it; and she left the hospital walking perfectly well. I could draw no other conclusion from this case than that the firm union of the fracture was mainly attributable to the adoption of the proceedings having for their object the free action of the surrounding muscles. Since in this case, the firmness of union had not commenced at the expiration of four months from the occurrence of the fracture, it almost warrants the conclusion that no period is too late for the commencement of that stage of the reparative process of fracture upon which the firmness of union depends.

*Influence of pressure upon the ununited fracture.*—The application to the limb of stiff leather splints, or other apparatus calculated to maintain firm pressure against the bone, is undoubtedly a most important part of the treatment of ununited fractures, and the merit of first establishing it belongs to Mr. Amesbury. It should not be the object to maintain the fractured ends of the bone in contact, but rather that the two portions of the bone should overlap, to allow of their periosteal surfaces being firmly pressed together, for as the tissue of periosteum is more readily disposed to the deposit of osseous matter than the tissue of bone, accordingly by the actual and firm contact of the periosteal surfaces the advantage is obtained of a better chance of the union of the fracture, which well compensates for the shortening of the limb consequent on the overlapping of the two portions of the bone.

*On the Use of the Immoveable Apparatus.*—The treatment of fractures by the immoveable apparatus, as it is termed, has been of late especially adopted by Dr. Scutini, Chief Surgeon of the Hospital at Brussels. The object aimed at by this treatment is to avoid the inconvenience of confinement, by enclosing the limb in an apparatus sufficiently strong to prevent the separation of the fractured surfaces, and of sufficient lightness to allow the limb to be moved about with ease. Varieties of apparatus have been recommended for this object; that which I employ in the hospital consists of

the splints, composed of layers of linen, cemented together by a mixture of egg and flour, and of the starched roller. The excellence of the splints thus contracted is, that with the firmness of the case they form, they are so exactly moulded to the inequalities of the limbs, that when confined to it by the turns of the roller, not the least movement of the limb within the splints can occur; and this is obviously essential to the quietness of the ends of the bone. Curiously enough this turns out to be the revival of a practice adopted in bygone times. Cheselden, in his *Anatomy*, states "that a professed bone-setter living in Westminster communicated to him the following method of treating fractures; this way was, after putting the limb in a proper posture, to wrap it up in rags, dipped in white of eggs, mixed with wheat flour; this drying, grew stiff, and kept the limb in good position;" and in his observations appended to *Le Drain's Surgery*, Cheselden observes, "there is no bandage equal to this for a fractured leg. I always use it, leaving that part upon the tibia very thin, that if it grows loose by the abatement of swelling, I then cut out a piece and bind it closer. Upon a journey, I once set the cubical bones of a gentleman's arm that was broken, and making use of this bandage, he, the next two days, made long journeys without any inconvenience, and at the end of forty days took it off, and was perfectly well."

There are objections to the indiscriminate use of the immoveable apparatus, and especially to its application upon a fractured limb immediately after the receipt of the injury; still, however, under certain circumstances, it is a most valuable addition to our plan for the management of fractures. Upon the subsidence of the inflammation and swelling immediately consequent on a fracture, the limb may in general with safety be enclosed in such splints as I have described, and which, when properly applied, will prevent any motion between the ends of the bone, and with a fracture of the femur as of the tibia, by the application of these splints, the patient will be enabled to move about on crutches, and even bear weight on the limb long before the fracture is firmly united. In several cases of fracture of the tibia I have by means of this apparatus been enabled to discharge the patient within little more than a fortnight from the occurrence of the accident, when, for particular reasons, it has been an object of importance to leave the hospital at this early period, instead of remaining here the usual time of five or six weeks.

In another class of cases the greatest benefit has been derived from the use of the immoveable apparatus. I allude to fractures of the thigh and leg in aged persons, in whom, from their not bearing confinement well, the stomach has become deranged, with failure of appetite, and obvious decline of the vital powers; directly these changes are noticed, the injured limb is enclosed in the immoveable apparatus, whereby the patient is enabled at once to get up and move about on crutches, and the unfavourable symptoms have immediately disappeared. I feel certain that by adopting this line of conduct, the lives of some old people have been saved who otherwise would have sunk.—*Medical Gazette*, Nov. 29, 1844, p. 273.

#### ON AMPUTATION OF THE PENIS.

By ROBERT BARNES, M.B., L.

[Mr. Barnes publishes an account of the mode in which M. Ricord avails himself of the process of contraction after amputation of the penis to keep the urethra open.

The principle of most surgeons in this operation is to counteract contraction.]

M. Ricord's principle is to avail himself of this process of contraction, and turn it to account in preserving the orifice of the urethra patent. The proceeding is this;—having performed the amputation, with the precaution of preserving sufficient skin, and no more, to sheathe the corpora cavernosa, and secured the vessels the surgeon seizes with

the forceps the mucous membrane of the urethra, and with a pair of scissors makes four slight incisions, so as to form four equal flaps; then using a fine needle carrying a silk ligature, he unites each flap to the skin by a suture. The wound unites by the first intention; adhesion being formed between the skin and mucous membrane which become continuous, a condition analogous to what is observed at the other natural outlets of the body. The cicatrix then contracting, instead of operating prejudicially, as in the old methods, tends, on the contrary, constantly to open the urethra, whilst a perfect covering is provided for the ends of the corpora cavernosa. In the spring of 1843, I had the satisfaction of seeing this ingenious operation performed by M. Ricord, at the Hôpital du Midi; when I saw the patient, eight days afterwards, the sutures had been removed, union had taken place between the skin and mucous membrane, and the urine had freely passed without the intervention of a catheter. I saw this patient again when he was about to leave the hospital, at which time the cicatrix was complete, the orifice of the urethra patent; there was an excellent stump, and in short, the operation appeared to be perfectly successful. M. Ricord has performed the operation in other cases, and, he reports, with the same happy results. I have performed the operation many times on the subject, and have found no difficulty in the execution of it.

Another inconvenience mentioned by Mr. Hancock, the difficulty of directing the stream of urine, is one which becomes troublesome in proportion to the shortness of the stump. It may be obviated by the contrivance recommended by Ambrose Paré. The patient must provide himself with a funnel-shaped canula, made of box, ivory, or metal, the base of which, being applied over the stump, and resting on the pubes, the other end will serve to carry the urine clear of the person.—*Lancet*, March 8, 1845, p. 266.

#### ON THE OPERATION OF TRACHEOTOMY.

By ROBERT LISTON, F.R.S., Senior Surgeon to University College Hospital.

(Condensed from the *Lancet*, Nov. 1844.)

The trachea requires to be opened for the extraction of foreign bodies. In this case no time is to be lost, as fatal symptoms may arise at a moment's notice. If the foreign body is loose, it will sometimes fall out by itself as soon as the opening into the trachea is made. At other times, they will not come away for a day or two after the operation. If it be situated above the opening, it may sometimes be disentangled and extracted by a bent probe. It is usually, however, found below; in this case, after having ascertained its exact situation by the probe, it must be extracted by the forceps.

Tracheotomy is also necessary on account of acute disease. Sometimes, in cases of *scalded glottis*, the symptoms become so alarming as to render the operation indispensable. It is occasionally also required, in consequence of wounds in the neck, where suffocation is threatened in consequence of extravasation into the tissues. *Edema of the glottis* is another affection which sometimes imperatively calls for the operation. In all these cases, we must not wait until death is imminent before we open the trachea, but do so while the lungs and head are as yet unaffected. In some cases of ulceration of the larynx, an opening is made in order to enable the patient to breathe more freely, and to give the ulcers time to heal. The latter indication may be promoted, by touching the diseased part with a solution of lunar caustic.

In *acute laryngitis*, if the disease be confined to the larynx, it may be necessary to open the trachea. In *croup* no benefit will ensue from the operation, because the trachea, and even the ramifications of the bronchi, are involved in the disease. We are not justified in having recourse to

it in the first instance; and after effusion of lymph has taken place, no good can be expected from the proceeding.

When the operation is decided upon, it becomes a question whether the larynx or the trachea is to be opened; under some circumstances cutting into the crico-thyroid membrane will answer the purpose. In cases where there is obstruction at the rima glottidis, as where swelling has followed a scalding of the parts, the high operation may answer; and in cases where a foreign body is lodged in the ventricle of the larynx, an opening in the crico-thyroid membrane may suffice, and in that case should be preferred, as being more simple than tracheotomy. It may be accomplished with any pointed instrument, as a penknife, and without any great incision. This operation will also answer exceedingly well in cases of suffocation caused by the impaction of a foreign body in the œsophagus, and many persons have been thus saved. But in the majority of cases tracheotomy is to be preferred, whether it be impaction of a foreign body in the lower part of the trachea, or in cases of œdema and other diseases of the glottis; for by this operation you get a free opening, and one at some distance from the seat of the disease, which is a point of some importance.

The operation itself is not attended with much danger, as the incision into the windpipe can be made without involving any vessel of consequence. There are sometimes large arterial branches running across the windpipe, but not often; the chief obstacle is the presence of the thyroidal veins. The wound heals with great rapidity; too fast indeed in some cases; for when the operation has been performed for the extraction of a foreign body, blood will sometimes be extravasated, or drop into the trachea and cause suffocation. The best plan, therefore, is to put a bit of lint between the edges of the wound, and cover its surface with a pledget dipped in cold water and frequently renewed. After the incision has been made six or eight hours, the edges may then be brought together, and will speedily unite.

There is little difficulty in getting down to the windpipe in an adult patient, if he is steady, and willing, as they generally are, to be relieved from impending suffocation. The patient is placed in a chair, and an assistant bending back the head, an incision is made from the top of the sternum upwards towards the cricoid cartilage, fully an inch in length, and going through the skin and subjacent tissue. You expose at once the sterno-hyoid muscles and cut through them, the veins and the isthmus of the thyroid body are then pushed on one side, and a clear space is thus exposed for making the opening into the trachea. The patient is then to be desired to swallow his saliva, and while the windpipe is raised by this act, the knife is to be pushed into it, and two or three rings to be cut across. If this has been done in consequence of the presence of a foreign body, this will generally fly out the moment the incision is made, and in consequence of the relief to the respiration and the cessation of struggling, the bleeding, principally venous, will cease of itself. Should it happen, however, that there is hemorrhage from an arterial vessel, it must be secured. In cases of permanent or long continued obstruction at the top of the windpipe, it will be necessary to introduce a tube. There is no sound objection to this instrument. Mr. Liston states that he has tried it more than twenty times, and that it does not cause irritation. He condemns the curved canula and trochar as unsurgical.

The operation is far more difficult in children than in the adult, as the neck is shorter and more laden with fat. The patient, if a child, must be well secured, and the operation is then to be performed as above described, with this exception, that as we cannot get the child to swallow its saliva, the larynx must be raised with a sharp hook. The time for which it is necessary to wear the canula varies ac-

cording to the nature of the disease for which the operation is performed, the only precautions necessary, in connexion with it are to keep it clean, and to cover the orifice with some loose texture, to prevent the admission of cold air.

[In a late number of the *Medical Gazette*, Mr. Cock speaks in very favourable terms of the curved canula and trochar in the operation of opening the trachea. Its principal advantages over the ordinary method, as stated by him, are a saving of time, which in some cases is a matter of great consequence; and the power it gives to the medical attendant of dispensing with assistance. The method of using the instrument, is first to cut boldly down to the larynx, and then to introduce it as in the ordinary operation for hydrocele, the concavity of the instrument of course looking downwards.]—*Half yearly Abstract of Medical Science.*

## MIDWIFERY.

### EXTIRPATION OF THE UTERUS.

BY M. MOLLET.

*Annales de Therapeutiques* Jan. 1845.

The subject of this operation was a woman of feeble constitution, æt. 47, mother of three children, who had experienced obscure pains in the uterus for the first time in 1831. The case was supposed at this time to be one of incipient polypus. At the end of 1843 bloody discharges occurred at short intervals, and in the course of the next year became more frequent and abundant. Her general health becoming much impaired she placed herself under the care of M. Mollet.

On the 25th of October the patient suddenly perceived something pass per vaginam, which upon examination proved to be the uterus, completely inverted (?).

It now became a question, what proceeding was to be adopted? Reduction was impossible; therefore the only chance for the patient was either to leave the disease to nature, or to remove it by operation. In the former case, everything was to be feared from the prolonged contact of the air, urine, &c. In the other, a considerable risk had, no doubt, to be encountered; but facts were not wanting to attest the possibility of success. As the patient became daily more and more exhausted, and ulceration with fetid discharge had commenced, the operation was at length decided upon, and performed in the following manner.

At the time of the operation, 11 a.m., the patient was in the following state;—pulse small and feeble; skin soft, without coldness. The tumour was of a grayish white colour, seven inches in length, three and a half in breadth. On the hypothesis that the case was one of total inversion of the uterus, it was agreed that as several important parts, such as the fallopian tubes, ovaries, fundus of the bladder, &c., might be dragged within the concavity of the organ, that an exploratory incision should be made, in order to ascertain what parts had become involved in the misplacement. This was done, after certain precautions had been taken to prevent serious hemorrhage. The bistoury plunged into a somewhat lardaceous tissue; but as no cavity was displayed, it became evident either that the tumour was not the uterus at all, or that that organ had been totally converted into scirrhous. Under these circumstances, it was considered safe to amputate at once by a circular incision. In this manner, the whole of the diseased parts were removed without hemorrhage, the operation lasting only thirteen minutes.

On examination of the parts, it was discovered that the diagnosis had been erroneous; that the uterus was not inverted, as was supposed, but merely dragged downwards by an enormous polypus, which had developed itself on the os tincæ. The patient died on the fifth day. [Appended to this case are some valuable practical remarks on the diagnosis of uter-

ine polypi, which, as they in some cases are sufficiently doubtful to mislead even the most experienced practitioners, we shall extract for the benefit of our readers.]

"In polypi arising from the interior of the uterus, and projecting into the vaginal cavity, the stalk of the tumour is always found more or less encircled by the lips of the dilated os and cervix of the organ; the tracing, therefore, with the finger, this circle of the cervix round the pedicle of the polypus, forms the most important diagnostic mark in such forms of the disease.

When, however, the polypus arises from the edge of the os uteri, or from the vaginal surface of the cervix, the above important diagnostic mark is wanting, and the case in consequence becomes one, the nature of which is often very difficult to determine. This difficulty of diagnosis does not merely depend upon our not finding the pedicle of the tumour encircled, as is usual in other forms of uterine polypi, but also from the still more fallacious circumstance, that the os uteri though traceable in the stalk of the tumour, is generally so displaced in situation, and altered in form, as to render its identity doubtful. The difficulties attending the diagnosis of those forms of polypus to which these remarks refer, would in most cases be perfectly removed, if we could assure ourselves that the body of the uterus itself was of the natural size, and in its natural position, and that the imperfect cleft that may be traceable on the inside of the tumour was in reality the os uteri. If these points could be fixed with certainty, the attachment and nature of the tumour would at once become evident, the question of the propriety of its removal would be resolved, and the exact point of its removal more safely and certainly determined than otherwise could be. These important points in diagnosis we would in future propose to fix, by introducing the uterine sound into the cavity of the organ, so as to determine the real situation of the os and the position and state of uterus itself, as ascertained by the direction and length of its cavity. The introduction of the instrument in particular cases will require unusual care and patience, in order to pass it through the displaced and altered uterine orifice. But the clear information afforded by the examination in a set of cases which are often so perplexing in their character will amply repay the mastering of any such difficulties as I have presupposed in the employment of the means."—*London and Edinburgh Monthly Journal*, April, 1845.

### SIMPLE ULCERATION OF THE OS UTERI.

(*London and Edinburgh Monthly Journal*, June 1845.)

The occurrence of simple ulcerations of the os uteri was denied by Boyer, owing, no doubt, to the little use made of the speculum in his day. Nothing, however, is more common than the appearance of these ulcers; and it may be said, that every woman labouring under leucorrhœa, purulent or lactescent is affected by this disease, if not with cancer [!]. Five or six varieties of this affection are at present under treatment in the wards of St. Louis under M. Jobert, and these have all been carefully studied by means of the speculum. It is so rare in ordinary practice to have so many patients under the eye at one time, and so inconvenient, moreover, to examine them in a suitable manner, that the present opportunity of doing so is interesting. The disease as far as regards the ulceration, presents itself under various forms; but they all proceed from the same cause—hypertrophy of the neck. This hypertrophy, without doubt, precedes the erosion, and is sometimes accompanied with induration, sometimes with softening. The hypertrophic softening is sometimes considerable; in this condition, it presents no morbid sensibility; the ulceration appears, no doubt, as a consequence to this state, and in the natural process of chronic inflammation. The ulcers may have their seat on one or the other lip, sometimes on both; in some instances

they cover the entire circumference of the os tincæ, and in others they are seated deep in the neck of the uterus, where they are concealed by the swelling of the anterior lip; but even here they may be discovered by a proceeding which we shall presently indicate: so much for the seat of the ulcers. As to their form, they are sometimes superficial: simple aphthæ, of the size of a lentil, having their seat on the edge of the neck, and more or less numerous, which is the most simple case; these aphthæ, however, not unfrequently extend, become confounded together, and constitute a superficial erosion of a mapped form, and more or less irregular; the lesion then becomes more serious. It is not necessary, however, that an ulcer should pass through the aphthous stage to arrive at this state, for it may originate at once in the inflammatory process alone. This species of ulceration presents a great resemblance to those large erosions of the superior part of the cornea, described by Velpeau under the term "Ulceres a coup d'ongle"; it is, however, proportionably much larger. It may be compared more exactly to the surface of a suppurating blister; it is covered with granulations, bleeds easily, and is often infiltrated with blood; its aspect is, therefore, always red, but it is not painful to the touch. It is probable, that those women in whom there is hemorrhage after sexual intercourse, have some slight lesion of this kind.

In a third variety the erosion is no longer superficial, it is hollow, and sometimes very deep. Its base is more or less foul, its surface always of a bright red, and infiltrated with blood. The erosion then very much resembles the ulcers on the legs of varicose subjects, after they have taken exercise. This kind of ulcer often causes a notch on one side of the os uteri, generally on the superior lip. In some cases the ulcer attacks the whole circle of the internal surface of the os uteri, and hollows out a cavity from above downwards. These hollow erosions must always be regarded with suspicion, more especially if they make any progress in depth, for their nature is frequently not simple; and if they have originally been so, they are liable to assume a bad character. As a general rule, an ulcer may be said to be simple when its surface is granular. In regard to form, the third variety resembles the preceding, it differs, however, in situation, being always in the neck. In conclusion we have to repeat that there are three forms of ulcers of the os and cervix uteri; the aphthous, ulcerative abrasions, and the deep excavated ulcer; all, however, are more or less granular. Hollow ulcers which are not granular are suspicious.

Those affected with ulceration of the neck of the uterus are in general young, having seldom passed their thirtieth year; they have usually had a family or miscarriages, and have been for some time subject to abundant leucorrhœa and hemorrhages, or at least to fluxes of blood from the uterus other than the catamenial; their constitution is lymphatic; they are frequently dark women, of ardent feelings, with the pilous system highly developed.

The symptoms are of two kinds. On the one hand, an abundant leucorrhœa, with lactescent discharge; on the other, symptomatic phenomena peculiar to most other chronic uterine affections; viz., lassitude of the extremities, pain and dragging of the loins, want of appetite, and sometimes a painful contraction of the sphincter ani.

A precise diagnosis can only be obtained by means of the speculum; the "toucher" alone is insufficient; by its means a state of hypertrophy can merely be ascertained, and that not with much certainty. In order to institute a thorough examination with the speculum, the patient must be placed, not on the edge of the bed, as is generally done, but on a table, with the hips very much raised, and the thighs bent backwards, so that the knees almost touch the abdomen. It is then only by a strong ray of natural light that the fundus of the vagina can be distinctly seen. In order to examine the whole periphery of the neck, a double-



valved speculum ought to be used, the cylindrical instrument does not embrace a sufficient portion of the hypertrophied cervix. At first there is observed on the uterus and fundus of the vagina a quantity of purulent mucus; on removing this, the disease becomes visible, the first thing that strikes the eye is hypertrophy of one or other lip, or of the whole os, and then the ulceration with which it is complicated.

As to the treatment, nothing is more simple or certain. The disease is invariably cured in the course of a few months, by the means employed at St. Louis. Two lesions have to be considered, the one depending upon the other, viz., ulceration and hypertrophy. If these be merely aphthous ulcerations, slight canterization with the acid nitrate of mercury, or even with the nitrate of silver, speedily produces cicatrization; the remaining hypertrophy, if it is not considerable, may be cured by the ordinary means. If the hypertrophy exist to a great degree, the actual cautery is used from the commencement. The same remedy is used for the third species of ulcer, so as to produce an eschar more or less deep. The cure is generally accomplished in from two to four months, but a sensible amelioration in regard to the pain and leucorrhœa is perceptible during the first week. It seems probable that concentrated heat causes such a modification of the diseased tissues, as to dispose them to the healing process. We earnestly entreat attention to the above facts; the disease is both frequent and disastrous among all classes, and especially in large towns.—*Annales de Therapeutique*, Avril 1845.

### THE INVERTED UTERUS SUCCESSFULLY REMOVED BY LIGATURE.

By Dr. McGLENNOCK, Assistant Physician to the Dublin Lying-in Hospital.

The subject of this case was admitted into the hospital on the 30th of August, 1844, æt. 24. As far as could be ascertained she had been the subject of difficult labour with pre-natural presentation, and the attendant had made use of force in extracting the child and placenta. The following morning a tumour made its appearance at the os externum, which was soon replaced; the tumour, however, prolapsed several times subsequently. She then became subject to profuse hemorrhagic losses by which she was much reduced.

Upon examination per vaginam a globular tumour was readily felt, round which the finger could be freely carried, and encircling the upper portion, the os uteri was plainly perceptible. On the 18th September Dr. Johnson applied a ligature of strong fishing-line around the neck of the tumour by means of Gooch's canula; after it was tightened she complained of some pain in the back. On the evening of the next day it was necessary to relax the ligature, in consequence of continued nausea and pain in the belly. To relieve the more urgent symptoms of pain and loss of rest, it became necessary to administer opiates. Within the first two or three days the catheter was also required.

On the 18th day after the application of the ligature it was found that the neck of the tumour was more than half divided, and on the 28th day Dr. Johnson completed the separation by incision. From this time the patient went on satisfactorily in every respect, and was seen in perfect health six weeks afterwards.—*Dublin Journal* March 1845, p. 48.

### ON THE EFFECTS OF ERGOT OF RYE ON THE PARTURIENT FEMALE AND HER OFFSPRING.

By SAMUEL HARDY, M.D.

[Long as has been the practice of administering the secale cornutum as an obstetrical medicine, its effects, both salutary and the reverse, are far from distinctly ascertained. The object of the communication, which we shall here condense,

is that of rendering our knowledge upon the subject more precise. In carrying out this object, the author investigates the action of the medicine under the following different points of view]:—

1. *As to the time the action of the ergot on the uterus commences.* From certain tables, this time appears to be in some cases as early as seven minutes after its exhibition, while in others a much longer period is required; the average time appears to be about ten or fifteen minutes. The author considers that it has always commenced within twenty-five minutes at the furthest, when the child has been expelled alive. On the other hand, if a longer time than this has elapsed, instruments have been necessary, and the infant has been born dead. The beneficial action of the ergot is evidenced by the pains running into one another without any appreciable interval.

2. *Effect on the maternal pulse.* This part of the inquiry is one of considerable interest, and has not received the attention from practitioners that it deserves. In nineteen cases recorded by the author, there was a marked diminution in the frequency of the mother's pulse, after the administration of the ergot; and this effect generally commenced within fifteen minutes of its exhibition. In all cases in which the maternal pulse was affected, the fetal heart underwent a corresponding change. Here a practical question naturally arises, Is ergot a safe remedy in relaxation of the uterus, when the woman is reduced by previous hemorrhage? [The author does not give us any decided reply to this question, but contents himself with allusion to a single case in point, in which alarming prostration followed its exhibition.]

3. *The effects of ergot on the fetal heart.* This is said to be still more remarkable than the effect upon the maternal pulse, and therefore demands serious consideration. By reference to the tables, it will be found that in the majority of cases a diminution in the pulsation of the fetal heart, followed the exhibition of ergot. The period at which this commences does not differ from that previously noticed, namely fifteen minutes; the most usual effect noticed by the author is a diminution, in the first place, of the frequency of the pulsations, which is succeeded shortly by irregularity in the beats, or complete intermission. The author here states a practical fact, deduced from his own observations, to the effect that the child is generally lost, however speedily the delivery be completed, if the pulsations of the fetal heart are reduced below 110, and at the same time become *intermittent*. The intermissions are a point of great importance in this statement, for the reduction of the pulse below 110 without this concomitant is not necessarily a fatal symptom.

Many different opinions have been broached as to the modus operandi of the ergot in destroying the life of the fœtus, some attributing it to the powerful compression exercised by the uterine wall, others to specific poisonous effect of the medicine. The author thinks that each opinion may, to a certain extent, be correct, but leans evidently to that which attributes it to the poisonous qualities of the ergot.

The depressing effects of ergot upon the fetal heart are so great, that a considerable time elapses after birth before the child can be restored. The author has observed that children equally weak are restored to animation with much less difficulty when ergot has not been given.

The author, in alluding to the proper time at which the ergot should be given for the purpose of restraining or preventing "post partum" flooding, states, that there are three periods at which the medicine may be administered;—first, when the head is about to pass; secondly, after it has been expelled; and thirdly, as soon as the index-finger can reach the insertion of the funis into the placenta.

4. *The state of the uterus and lochial discharge.* After the use of ergot, the uterus has frequently been found much larger than in ordinary labours, as has been remarked also by Dr. Johnson. The lochial discharge was sometimes pale

and scanty. The children which are born alive usually do well.

The mode of administration of the ergot varies with different practitioners. The plan adopted by the author is to infuse half a drachm of the powder in three ounces of boiling water, and after straining to add ten or fifteen grains of fresh powder with a little sugar. This dose is repeated in twenty minutes, and if the uterus does not contract well, is given a third time.

[This interesting paper concludes with five tables arranged under the following heads:—1. Cases in which, after the exhibition of the ergot, the labour was terminated, the children being alive, by the uterine efforts alone. 2. Cases in which children were born alive, but the application of the forceps, or vectus, became necessary. 3. Cases in which the uterus expelled the children still born. 4. Cases where still-born children required instrumental extraction. — *Dublin Journal*, May 1845. (pp. 224—248.)

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON THE CO-EXISTENCE OF GRANULAR DISEASE OF THE KIDNEYS,

with Pulmonary Consumption; and on the influence of the Strumous Diathesis in predisposing to the Renal Disease.

By THOMAS BEVIL PEACOCK, M.D.

Dr. Bright, in the notes to his tabular statement of the morbid appearances in 100 cases of Granular Disease of the Kidneys, occurring in connection with albuminous urine,\* has remarked, that "the instances in which phthisis, or any form of scrofulous disease, has been connected with the renal affection, have been decidedly rare, so that in only four cases has recent phthisis developed itself; and what is somewhat remarkable, in more than double that number the disease seems to have made a certain inroad upon the upper lobes of the lungs, and then to have become quiescent, or to have entirely subsided, from which we should perhaps be inclined to infer, that, so far from the diseases being associated, the condition of the body, in this form of renal disease, is unfavourable to the existence of phthisis, or certainly that it is not peculiarly apt to occur in scrofulous constitutions." These views have not been confirmed by the experience of other observers. Dr. Christison† says, "I have very little hesitation in putting down the scrofulous diathesis among the predisposing causes of granular disorganization of the kidneys. In repeated instances I have been led by the supervention of oedema during phthisis, to examine the qualities of the urine, and, although the result has not been invariable, still in a great proportion of cases of the kind, the secretion has been found to possess the properties essential to the renal disease. In repeated instances the diagnosis during life has been confirmed by inspection of the body after death. On diverse occasions, too, the kidneys have been discovered on dissection in an advanced state of granular disorganization, when the condition had not been attended to during life, and when, nevertheless, from the state of the urine in the bladder, there could be no question that the pathognomonic characters of the disease might have been detected, had not the attention been withdrawn from them by some urgent symptoms."

Rayer,‡ in alluding to the remarks of Dr. Bright above quoted, expresses the concurrence of his experience and views with those of Dr. Christison; and states, that he has in repeated instances found the urine become albuminous during the progress of phthisis, with or without the supervention of dropsical symptoms, and has detected, after death, the characteristic renal disorganization. Martin-Solon—though he found the lungs tuberculous in four out of ten dissections of persons who had sunk under granular disease of the kidneys—regards the two affections as only accidentally co-existent.§ Dr. Osborne, on the other hand, states, that of 36 cases of renal disease with albuminous urine, which had fallen under his notice, four originated in scrofula; and in one of the only two dissections of cases of renal affection producing dropsy,

which he relates, the lungs were in an advanced state of tuberculous disease.

These quotations are sufficient to show the difference of sentiment which exists among writers on the Granular Disease of the Kidneys, as to the co-existence of strumous diseases with that affection, and the influence which the scrofulous constitution exerts in its production. The data given in the following paper were collected for my own satisfaction, but, as the question to which they refer is both interesting and important, it is conceived that they may be worthy of publication. The points which I shall endeavour to illustrate, are—first, the frequency of the occurrence of tuberculous affections of the lungs, in conjunction with decided granular disease of the kidneys;—secondly, the relative frequency and importance of the different visceral complications in that affection;—thirdly, the relation as to priority between the granular affection of the kidneys, and the tuberculous disease of the lungs;—and, lastly, the frequency of the granular disorganization as a secondary affection in phthisis, and the influence which it exerts on the progress of the pulmonary disease.

In these inquiries I shall confine myself to the results obtained by dissection.—M. Rayer having shown—as I have myself seen—that the urine becomes more or less albuminous, in certain forms of secondary tuberculous deposition in the kidneys, or mucous membrane of the urinary passages; and hence, that in cases of phthisis, the diagnosis of granular disease of the kidneys from the state of the urine, is liable to fallacy. The data for the determination of these questions, I have drawn from the paper on Diseased Kidneys connected with albuminous urine, by Dr. Gregory,\*—the work of M. Rayer, and from a considerable number of unpublished cases examined and recorded by myself, in the 7th and 8th volumes of the Register of Dissections of the Royal Infirmary of Edinburgh.

I. In Dr. Gregory's paper, are detailed the particulars of 41 examinations of persons in whom decided granular disease was detected after death, and in the majority of whom it had also been diagnosed during life. Of these cases the condition of the lungs is reported in thirty-one, of which eight presented advanced tuberculous disease; and in a ninth case, a few tubercles were found at the apex of one lung.

M. Rayer has published the dissections of 45 cases of granular disease, exclusive of those of diseased kidney connected with the dropsy consecutive to scarlet fever, and in all of these the state of the lungs is recorded. Of the 45 cases, 12 presented extensive tuberculous disease in the lungs, and in 5 others there existed fewer recent tubercles in the upper portions.

In the Register of Dissections performed by myself at the Royal Infirmary of Edinburgh, in 1842 and 1843, I find recorded the results of examination in 42 cases of decided granular disease—in the larger proportion of which, the affection had been detected during life. In 40 of these cases the condition of the lungs is expressly given; and of these in six they were extensively affected with tuberculous deposition, and in four others there existed fewer recent crude tubercles. Placing together these observations, which do not differ more widely than will always be the case in limited series of facts, it results, that of 117 cases of decided granular disease of the kidneys, extensive tuberculous affections of the lungs existed in 26, and a smaller number of tubercles of recent origin in 10 others; or, out of the 117 cases, 36, or nearly one-third (30.7 per cent.), contained more or less extensive advanced tuberculous deposition in the lungs, a proportion much larger than that already quoted, as deduced by Dr. Bright from his table: it must, however, be observed, that, as in 11 of the cases included in his table, the condition of the lungs is not reported, his statement refers to only 89 cases.

II. The relation, however, which exists between the renal and pulmonary affections will be rendered more apparent, by a comparison of the relative frequency of the tuberculous affections of the lungs, to the other diseases of those organs, and of the heart and liver, which occur in the bodies of persons who have died of renal disease.

The cases which I have before analyzed will furnish the data for this comparison.

Of the cases related by Dr. Gregory, the condition of the heart is reported in 21, of which 7 only presented decided disease.

\* Edinburgh Medical and Surgical Journal, vol. xxxvi. 1831, p. 315. I have not included in my analysis the small number of cases reported by Dr. Christison, as several are also published by Dr. Gregory, and in others the condition of the lungs is not reported.

\* Guy's Hospital Reports, vol. i. 1836, p. 381.

† On Granular Degeneration, pp. 112, 113.

‡ Sur les Maladies des Reins, t. ii. p. 313.

§ De l'Albuminurie, p. 238.



In the reports of M. Rayer, the condition of the heart is stated in 43 cases, and of these it was flaccid in 21, and 8 others displayed only some slight degree of enlargement with thickening or opacity of the pericardium or endocardium; so that the instances of decided disease amount to only 14, of which two displayed recent false membranes on the pericardium, and 12, more or less extensive hypertrophy, with or without thickening and opacity, or actual disease of the valves. Of my own cases, the state of the heart is expressly reported in 38. It was found healthy in 17, and in five other cases the only abnormal condition was slight increase of size, with or without thickening and opacity of the valvular folds of the endocardium; of the remaining 16 cases, in 2 there existed recent pericarditis; in 9 hypertrophy and dilatation of one or both of the ventricles, with, in some cases, thickening and opacity, but no incompetency in the valves; and in one of these cases the organ had also undergone the fatty degeneration; in four cases there existed aggravated valvular disease, and in 1 true aneurism of the septum ventriculorum. Thus, of the 102 cases of granular disease, in which the state of the heart was examined and recorded, that organ was decidedly diseased in only 33, or including the cases of recent pericarditis, in 37, or 36.4 per cent.

The condition of the liver is reported by Dr. Gregory in 29 cases, of which number it is stated to have been healthy in 12, and more or less extensively diseased in 17. Of the latter class, however, in several instances there seems to have been only trivial alterations of size or colour; and probably, in not more than 8 or 10 cases did there exist organic disease.

In 40 of M. Rayer's cases, the state of the liver is described. In 13 it was healthy; in 7 others it was only more or less engorged, giving rise to slight alterations of size or colour; and in two cases the peritoneal surface was covered by recent lymph, though the texture of the organ was healthy. It thus appears, that not more than 18 cases presented important changes. In 7 of these, there existed marked increase of density in the organ, with or without alteration of size and colour; in 3, there was great enlargement; in 3, cirrhosis; in 3, the organ was fatty; and in 1 it contained tubercle. In one case the nature of the disease is not stated.

In the cases taken from the Register of Dissections at the Edinburgh Infirmary, the condition of the liver is reported in 30. In 11 it is stated to have been found healthy; in 10 others the only alterations were dependent on the degree of engorgement from external causes, combined in 3 cases with thickening, opacity, or adhesions of the peritoneal coat; and in an 11th case, while the substance of the organs was healthy, the serous covering had been implicated in general peritonitis; so that the viscous was organically diseased in only 8 cases, of which 5 were instances of a diopse degeneration, with greater or less enlargement; in 2 the organ contained tubercles, and in one there existed early cirrhosis.

The liver was, therefore, organically diseased in 36 of the 99 cases examined, or 1 in 36.3 per cent.

The lungs were examined and reported in 31 of Dr. Gregory's cases, of which 22 displayed different forms of disease, and 8 were decidedly, and one slightly, affected with tuberculous deposition. M. Rayer found both lungs entirely healthy in only 4 cases, out of the 45 which he has reported. In 8 others, however, the only change was more or less decided congestion, dependent on the mode of death or compression from pleuritic effusions, so that the cases of actual disease amount to only 33, and of these the lungs were inflamed and hepatized in 7 cases; the mucous membrane of the bronchi was injected, and the tubes contained much secretion in 9; there existed extensive tuberculous disease in 12, and a few recent tubercles in 5 others.

Lastly, of the 41 of my own cases in which the condition of the lungs is recorded, they were found entirely healthy in 2, and in 10 others presented only compression from pleuritic effusions, or slight degrees of congestion, œdema, or emphysema; and in one the tubes and cells contained blood, from the bursting of an aneurism. There remain, therefore, only 29 cases of decided disease; in 10 of which there existed pneumonic consolidation; in 9, injection of the mucous membrane of the bronchi, and much mucopurulent fluid in the tubes, with considerable congestion or œdema; and in 6, extensive, and in four others slighter, tuberculous disease.

Therefore, of 117 cases in which the lungs were examined, 81

presented different form of disease, or 71.8 per cent. and 36, or 30.7 per cent. more or less extensive tuberculous disease.

It thus appears that

		per cent.
The heart was examined in 102 cases, and found diseased in	37, or	36.4
The liver	36, or	36.6
The lungs	81, or	71.8
	Phthisical in 38, or	50.7

Or otherwise, that the diseases of the heart and liver were of equal frequency, and occurred in about one third of the cases; while the lungs were affected in different ways in two-thirds of the cases, and were tuberculous in nearly one-half of these, or in scarcely a less proportion than the whole of the several affections of the heart and liver. This very large proportion afforded by the tuberculous diseases of the lungs in so considerable a number of cases, can, I conceive, scarcely be regarded as accidental, and renders the conclusion almost necessary, that the causes predisposing to the renal and pulmonary affections are closely allied.

III. It might, indeed, be supposed, that the tuberculous disposition in the lungs is secondary to the renal disorder, being superinduced by the consequent deprivation of the constitution, as we find to be frequently the case in chronic visceral diseases. There seems, however, every reason to believe, that tuberculous affections of the lungs are very rarely secondary to the granular disorganization of the kidney. Dr. Christison states, that he has not met with a single instance in which this appeared to have happened; and M. Rayer, while he states that such cases occasionally occur, yet admits their extreme rarity. On referring to the notes of nine of my own observations, in which phthisical and granular disease co-existed, and in which the condition of the kidneys and lungs is fully described, I find that in one case the affection of the kidney was unequivocally primary and predominant;—the kidneys were externally of a pale yellow colour and irregular shape, and internally they presented an extensive small granular deposit in the cortical portion, and between the tubuli, entirely replacing the natural striated texture; while the lungs only contained a small number of gray tubercles in the upper lobes. In a second instance, in which the patient was cut off by an attack of acute pericarditis, the kidneys were found in an advanced state of disease; their cortical portions being infiltrated with a whitish coloured deposit, interspersed with small yellowish tubercular bodies, while the disease of the lungs was in an early stage—those organs containing only a moderate deposit of yellow and gray tubercles, chiefly in the upper lobes.

In two other cases, the renal was more advanced than the pulmonary disease; but in these the visceral affections were apparently secondary:—in one case, to caries of the tarsus, for which a partial amputation of the foot had been performed; and in the other, to a venereal taint in the constitution,—the osseous system being throughout extensively diseased.

In a fifth case, there existed advanced granular disorganization, the kidneys presenting a mottled surface, and, on section, being found to contain a copious granular deposit in the striated portion, while the lungs contained old and recent tuberculous disease, in the form of cretaceous masses in the upper lobes and bronchial glands, mixed with yellow and gray tubercle in the crude state; so that the respective dates of the pulmonary and renal affections are doubtful.

In the remaining four cases, the pulmonary disease was evidently primary. The disorganization was in all extensive, and the tubercle had softened, giving rise to caverns, in one or both lungs. And lastly, in four other cases, not previously referred to, there existed renal disease in a recent stage, in conjunction with advanced tuberculous disease of the lungs.

It appears, therefore, that of thirteen cases out of fourteen—the whole of those in which more or less decided tuberculous disease of the lungs and granular disorganization of the kidneys co-existed—the priority of the affection was doubtful in one; in two, the disease of both viscera was secondary to other chronic affections; and in one, or perhaps two, the disease of the kidneys was the primary affection; while in eight cases, the lungs were obviously diseased, primarily and predominantly.

That the lungs should, in the renal disease, be less frequently the seat of secondary tuberculous affections than in most other chronic diseases, may probably be ascribed to the frequency with which those labouring under the affection are cut off by the supervention of acute inflammatory action in the several viscera or serous

membranes. It is improbable that the different results obtained by Dr. Bright from the cases which he has analyzed, and those of other observations, confirmed by the facts I have brought forward, may be ascribed to his having included in his table only such cases as had presented redominant signs of renal disease during life, and in which the tubercular disorganization was consequently only secondary, and not the whole of the cases in which decided granular disease was founded on examination after death. The importance, however, which he attaches to the occurrence in some of his cases of tubercles of old date, and in a quiescent state, in the upper lobes of the lungs, as evincing that the existence of granular disease is unfavourable to the progress of phthisis, is, I venture to suggest, founded on a misapprehension of the frequency of the occurrence of these bodies in the lungs of persons who die, from whatever cause, in the middle or after periods of life,—a frequency which the observations of M.M. Rogee and Boudet in Paris, and of Dr. J. H. Bennett in Edinburgh, show to be greater than would be anticipated by those whose attention has not been specially directed to the subject. The former (C. Rogée, *Archives Générales de Médecine*, 3 série. t. v. p. 191.) found cretaceous masses in the lungs in 51 out of 100 persons examined, and in 16 they were numerous, and of considerable size. M. Boudet,\* in 116 persons between 15 and 76 years of age, met with tubercles in the lungs, altogether free from recent action, in 61; and Dr. Bennett in 16 out of 73 examinations. It cannot, therefore, be matter of surprise, that these bodies—regarded by those writers, as well as previously by Drs. Home and Carswell, as affording decisive evidence of the curability of phthisis—should have occurred in seven or eight cases of granular disease, out of the 89 reported by Dr. Bright. The ages of only four of those in whom they were found are stated in his table; but all these are at periods of life at which the tuberculous bodies more or less completely transformed into cretaceous matter, are of constant occurrence.

In addition to the evidence that the strumous diathesis powerfully predisposes to the development of the granular disease of the kidneys, founded on the much greater frequency of tuberculous disorganization of the lungs, than of any other single form of visceral affection in the bodies of those who exhibit decided renal disease, whether primary or secondary, still further proof of its influence is afforded by other affections with which the renal disease is often combined. Thus I find of the cases where the lungs were free from tubercle, one patient laboured under strumous ulcers; a second, under chronic peritonitis, and the peritoneum was studded with small granular tuberculous masses of lymph; in a third, there existed circumscribed peritoneal and pleuritic abscesses, bounded by fibrocartilaginous false membranes, and containing sero-purulent fluid mixed with caseous matter; in a fourth case, the sternum and ribs were carious, and had given rise to extensive abscesses, and other instances of the same kind might be quoted. In several of the cases also in which the lungs were pneumonic, the appearance of the consolidated portions was different from that of ordinary hepatization. They were usually firm, exuded very little fluid on compression, were of a pale buff colour, very distinctly granular when torn, and presented a condition which might be regarded as intermediate between the pneumonic condensation and tuberculous infiltration.

In conclusion, we have seen that pulmonary consumption very frequently co-exists with the granular disorganization of the kidneys, and that, so far from being an accidental complication, supervening during the last stages of that affection, the pulmonary usually precedes the renal disease. We have also founded that in cases where the lungs are healthy, there frequently exist other proofs of the tuberculous diathesis, and we can, therefore, scarcely withhold the conclusion that this constitution very powerfully predisposes to the renal disorganization. The diseases dependent on the serofulous constitution being most frequent during infancy and adolescence, it follows, that, at these periods, the renal and strumous affections should most generally co-exist. This inference is confirmed, so far as relates to the coincidence of phthisis and renal disease, by the analysis of the cases before referred to. Of the 116 persons whose ages are given, 22 are stated to have been of 25 years of age and under, and of these 10, or nearly one-half (45.4 per 100), presented more or less extensive and advanced tuberculous disease of the lungs; while of the remaining 94, 25 only, or rather more than a fourth (26.5 per 100), were similarly

affected. To say, however, that the connection between the comparatively few cases of granular disease of the kidneys, occurring during early life, and the strumous diathesis, is so invariable as supposed by Dr. Christison, may perhaps be more doubtful.

IV. The 10 cases of more or less advanced granular disease in which the affection was evidently secondary to phthisis, occurred out of 59 cases of that disease in which the condition of the kidneys is expressly noted, being thus in the proportion of one-sixth, or 116.7 per cent. Of 40 cases of consumption examined and recorded by my predecessor, Professor Reid, of which I possess abstracts, there were 6 in which disease of the kidneys was diagnosed during life, and found to exist after death; and in 4 other cases in which the condition of the urine does not appear to have been investigated during life, the organs were found decidedly granular;—being thus one-fourth of those examined. In several of the cases examined both by Dr. Reid, and myself, the condition of the kidneys was doubtful. Dr. Home, in his *Statistical and Pathological report on Phthisis*,\* states that the kidneys had undergone the granular disorganization in 4 cases; but as he has not reported the condition of these organs in his table, we are unable to ascertain the proportion which these bore to the whole of those examined.† The granular disease of the kidneys seems to be a more frequent complication of phthisis than the deposition of tubercle in those organs. Dr. Home did not find tubercles in the kidneys in any of the subjects which he examined; of the cases reported by Dr. Reid, 3 only appear to have been so affected; and in the observations which I have myself made, tuberculous depositions were found in the kidneys in only 6 or 10.1 per cent. The renal complication would therefore appear to occupy an intermediate position, as to frequency, between the almost constantly occurring secondary affections of the intestinal follicles, and of the mucous membrane of the larynx and trachea, and the depositions of tubercles in the viscera, which, after adolescence at least, are extremely rare.

From an analysis of 97 examinations of phthisical subjects performed by myself, I find the relative frequency of the several secondary affections to be as follows:—

The intestinal follicles contained yellow tuberculous matter, or were ulcerated in 85.3 per cent.

The mucous membrane of the larynx, or trachea, was found ulcerated in 70 per cent.

A larger or smaller number of tubercular masses were founded imbedded in the substance of the kidneys, or in the mucous membrane, of the pelvis and ureters in 10.1 per cent.

Tubercles were imbedded in the substance of the liver in 3.1 per cent.

" " " of the spleen in 1.9 per cent.

" beneath the attached pericardium in 1.2 per cent.

The substance of the heart is very rarely the seat of any heterologous deposit, and the deposition of tubercle in this situation seems especially rare. In the case here referred to, there was a solitary mass of softish yellow tuberculous matter beneath the pericardium covering the right ventricle. I have seen one other instance in which numerous masses of tubercle, varying in size from that of a pin's head to a split pea, had their seat apparently either in the subserous cellular tissue, or on the surface of the pericardium. This was in the case of a female, 23 years of age, whose lungs did not contain tubercle, though the bronchial glands were extensively diseased. This case forms almost the only exception which, out of several hundred examinations, I have found to the general law laid down by M. Louis, that if, after the age of 15, tubercles exist in any organ, they will also be found in the lungs.

The proportion of cases of phthisis in which the renal complication occurs, appears, at first sight, to associate that change with the fatty degeneration of the liver, which, from M. Louis' statement, occurs in France in about one-fourth of the cases, or in 40 out of 120. That the latter affection can only be regarded as accidental, is, however, shown by its very much less frequent occurrence in this country;—thus, in the cases of phthisis examined by Dr. Reid, of which I possess notes, the liver is reported to have been fatty in only 5 out of 35 cases, and in my own cases,

\* Edinburgh Medical and Surgical Journal, vol. xlix. p. 1.

† It is curious, notwithstanding the evident frequency with which the renal disease occurs as a secondary affection in pulmonary consumption, that no allusion should be made to the subject by M. Louis, in the last edition (1843) of his *Recherches sur la Phthisie*.

\* Comptes Rendus, t. xvi. 1843, p. 143.

† Ed. Med. and Surg. Journal, 1845, April.

in only 8 out of 63. Further investigations have also shown, that though, as observed by MM. Louis and Bizot, it is most frequently found in persons who have died of phthisis, and in females, it also occurs in those who have sunk from other chronic diseases, and in both sexes.

In the whole of the cases in which the granular disease of the kidneys occurred as a complication of phthisis, the tubercle had softened, and given rise to caverns—in 3 instances in one lung only, in the remaining 5 in both.

In 4 cases, there existed more or less extensive recent pneumonic condensation in one or both lungs, and in 2 the pleura was also found covered by recent membranous exudations, and its sac contained sero-purulent fluid. In a 5th case there existed copious muco-purulent secretion in the bronchial tubes, and the mucous membrane was much injected. In 7 cases the solitary and aggregate glands in the intestines were tuberculous, and the mucous membrane more or less extensively ulcerated, and in one of these there was also recent peritonitis, though no perforation of the canal was detected.

In one case, there was extensive ramolissement of the central parts of the brain, connected with paralysis, first affecting the right side of the body, and subsequently both sides.

In one case, there was disease of the mitral valve, with hypertrophy, and dilatation of the heart.

In 6 cases, the serous sacs contained more or less fluid, and the cellular membrane was œdematous.

In 2 or 3 cases, the fatal event was ushered in by delirium and coma, and might be regarded as directly resulting from the imperfect performance of the functions of the kidneys.

We see, therefore, that the supervention of the renal disease during the progress of pulmonary consumption, both by the great liability which it induces to inflammation of the parenchymatous viscera and serous sacs, and also by the direct effect of the elements of the arrested renal secretion, tends very materially to add to the severity, and hasten the progress of the pulmonary disease.—*London and Edinburgh Monthly Journal Med. Sci.*, Aug., 1845.

## REMARKS ON SCARLATINAL DROPSY.

By GOLDING BIRD, A.M., M.D.

[The following may be taken as a sample of the appearances usually presented by a child labouring under scarlatinal dropsy. The patient is attacked, say a fortnight before, with scarlatina, the eruption subsides in a week, and the child seems doing well, but afterwards effusion into the abdomen makes its appearance, which spreads to the extremities; face waxy and puffed, pulse quick and feeble, urine dingy and coagulable, and the surface of the body is dry, smooth, and cold. The treatment is very simple. The patient must be dressed in flannels, kept in bed, and have hot bath every night, and take  $m\ x. \text{vin. ant. tart.}$  and  $m\ x. \text{syr. papav. in } \text{℥} \text{iii aqua. ammon. acet.}$  every four hours, and  $gr. \text{℥iiss p. ipecac. com. c. gr. v. hyd. cum cret.}$  every night, and afterwards, when the œdema has subsided and the urine is improved,  $3j \text{ vin. ferri}$  three times a day.

The causes by which œdema and congerion of the kidneys are produced in some cases of scarlatina are not very evident. As, however, it occurs chiefly amongst the lower classes, who are so extremely negligent in the matter of cleanliness, there can be no doubt that the most serious exciting cause is the non-establishment of free perspiration after the disappearance of the rash. This non-performance of the cutaneous functions must induce renal congestion, whence the evils caused by inference with the duties of these important organs of depuration. The warm bath, with a large bran, or linseed-meal poultice to the loins, is generally sufficient to relieve the renal congestion occurring in these cases in children.

If due care were taken to restore the functions of the skin after scarlatina, by the use of warm baths and flannel clothing, the resulting dropsy would be very rare. Yet in Dr. Bird's opinion this is by no means to be regarded *per se* as the real cause of these effects; but rather that the want of a freely perspiring surface, by determining the

blood to the kidneys especially, places the patient in the most favourable condition for the development of the effects of the unexhausted poison of the pre-existing disease. To render this clearer, he lays down in an aphoristic form the facts recognized in connection with the development of the disease in question.]

1. The anasarca does not appear during the existence of the rash.

2. The sequelæ, which do not depend on local mischief about the throat, usually appear about the end of the first week after the recession of the rash, rarely before, and not often after this period.

3. The frequency of their occurrence is in the inverse ratio of the vividness of the rash.

4. The urine contains certain of the elements of the blood (albumen and red particles,) with a considerable number of large organic globules.

5. The blood contains some of the elements of urine, as proved by the existence of urea in it, as well as in the secretions derived from it.

6. Analogous effects, although looked for, have not been observed on the recession of other exanthems, as measles and small-pox; nor in cutaneous affections in which free perspiration must be checked, or greatly lessened, as in lepra, psoriasis, chronic eczema, &c.

Admitting that the foregoing propositions are fully borne out by past experience, we cannot fail to recognize the affection under consideration as something peculiar, and bearing a definite relation to the poison of scarlatina, and not as the result of a mere impaired state of the function of the skin.

There can scarcely be a question of the, at least, conventional accuracy of the old opinion, now lately revived, of scarlet fever being essentially a disease of the circulating fluid; that in fact the peculiar poison of scarlatina, when it affects an individual, plays the part of a ferment, deranges the healthy condition of the blood, acting as a poison as effectually as if directly injected in a palpable and visible form into the blood vessels. Hence scarlatina, like variola, rubeola, glanders, &c., is regarded as a zymotic affection. A person, then, who is inoculated, no matter in what way, with this septic poison, after a period of time, which has not been satisfactorily determined, becomes the subject of the well-known symptoms of scarlet fever. During this period of incubation there can be no question but that the effects of the poison are influencing the system at large, so that no tissue or secretion of the body can be said altogether to escape completely its malignant influence. The result of this effect of the poison is a great determination of blood towards the cutaneous and mucous surface, shewn by the characteristic rash covering the former, and the injected erythimic state of the latter. Many of the glandular structures also partake of this congestion, as is generally shewn in the throat by the inflamed and swollen tonsils and sub-maxillary glands. If the exanthem be vivid, and its eruption copious, nothing occurring to check its full development, or arrest its course, the effects of the poison become, accidents apart, exhausted, desquamation of the cuticle occurs, and convalescence results. But if, on the other hand, some irregularity takes place in the normal development of the effects of the scarlatinal poison, and its elimination by the surface is prevented, the patient may apparently convalesce for a time satisfactorily; but the poison not being all excreted or destroyed, some of the recognized after-effects result. Even if the powers of the patient are sufficient to enable him to combat successfully the effects of this relic of the poison, a check given to the re-establishment of the cutaneous transpiration by too early an exposure to the influence of alterations of temperature will be sufficient to prevent the due excretion or decomposition of the remaining *materies morbi*, and one or other of the ailments before alluded to are ushered in.

[In what manner does the presumed relict of scarlatinal poison act in producing the peculiar after-effects of the disease? Granting the existence of an imperfectly exhausted *materies morbi* in the blood after the disappearance of the incompletely developed exanthem, attempts will be made to excrete this matter, under some form or other, by some of the various emunctories of the body. We cannot doubt that the skin is adequate to the task, since the after-effects are so extremely rare when a freely perspiring surface has been obtained soon after the recession of the rash, but when this means of excretion has been insufficient or stopped by cold or want of cleanliness, an attempt is made to get rid of the relict of the disease by some other outlet.]

From the researches of Wohler and others, with which the profession is perfectly familiar, it seems demonstrable, that, as a general rule, all effete matters existing in solution in the animal fluids are excreted by the kidneys. Accordingly, a large supply of blood is sent to these organs, their capillaries become dilated and congestion occurs. The almost necessary result of this pathological condition of the kidneys is a double lesion of their function. An exudation of the albuminous elements of the blood occurs, and renders the urine coagulable, its tint being often darkened by an admixture of red particles; whilst, on the other hand, the kidneys cannot carry on their important depurating functions perfectly; they eliminate but imperfectly the nitrogenized effete elements of the blood, and hence one or more of the normal constituents of the urine are detectable by chemical analysis in the circulating mass. Contemporaneously with these lesions, more or less effusion into the loose sub-cutaneous cellular tissue, to a varying amount, generally but not necessarily occurs.

The train of effects, often of a grave character, following scarlatina, are almost all, I believe, really referrible to the retention of the nitrogenized elements of urine in the blood: a conclusion, the adoption of which is justified by the analogy existing between the disease under consideration and *Morbus Brightii*, in which the existence of effete nitrogenized matter in the blood is, at least in several phases, a necessary accompaniment. The recognisable sequelæ of scarlatina referrible to this category are characterized by the tendency to the setting up of serous inflammation, especially of the pericardium, pleura, and arachnoid. Cases of pericarditis often have been by no means very unfrequent among the children who had suffered from scarlet fever; and certainly a month has not passed without meeting with cases of heart disease referrible distinctly to pericarditis following attacks of scarlatina.

It may not be uninteresting to those less acquainted with chemical manipulation, to describe a simple and easy process for the detection of the urea in the blood and serous fluids, in the cases just alluded to. Allow the blood to coagulate, decant the serum, and agitate it violently with its own bulk of rectified spirit; a dense deposit of albumen occurs, and the mixture may be set aside for subsequent examination, or, if time permits, this may be proceeded with immediately. For this purpose, throw the whole on a filter, and evaporate the filtered fluid slowly to a drachm or two; then add to it an equal bulk of dilute nitric acid of the pharmacopœia, and once more filter. The filtered fluid, collected in a watch-glass, may be slowly evaporated to a few drops, and, on cooling, feathers of nitrate of urea will form in the liquor. Should the crystallization be imperfect, the deposited nitrate may be re-dissolved in a few drops of water, the solution decanted, and once more slowly evaporated. By this simple process, requiring no apparatus beyond an evaporating dish, any one may satisfy himself of the existence of urea in serous fluids containing it. With ordinary care the evaporation may be performed on the hob of a parlour fire-place, especially if a piece of card-board is interposed between the evaporating dish and surface of the

hob, to prevent any accidental elevation of the temperature to too high a point.—*Guy's Hospital Reports*, April, 1845, p. 131.

## ON RHEUMATISM.

By C. J. B. WILLIAMS, M.D.F.R.S., &c.

[Rheumatism is usually divided into acute and chronic; sthenic and asthenic are more appropriate terms. The crick in the neck produced by sitting in a draught is a kind of rheumatic affection, and the same may be said of lumbago and sciatica, which are neuralgic forms of the same complaint.]

The distinction between the forms of rheumatism is very easy, more particularly in chronic cases, in which the peculiar products of the inflammation are more confined to the specific parts that are affected. In the first place, there is the most acute and inflammatory kind—the acute diffused articular rheumatism—which affects all the joints, and is not confined to any particular structure. In acute rheumatism of the knee, you find the patella is floated up by the effusion under it, besides which there is a considerable enlargement with tenderness and swelling of the surrounding *bursæ*, and the skin may assume the appearance of common inflammation. This form resembles common inflammation, and is, consequently, more tractable. The second variety is the acute fibrous or fascial rheumatism, where the inflammation attacks chiefly the fibrous textures, the fascia between the muscles, the aponeuroses, the periosteum, and the fibrous coverings of the viscera, more particularly the pericardium. In the other form the pericardium is not affected. The endocardium is also affected. The seat of this inflammation is confined to the joints themselves; there is more or less pain and swelling in the joints, and also swelling between the joints in the fore-arms, the backs of the hands, and in the legs. There is a sort of diffused swelling over the limb affected, not simply a fluctuating swelling in the capsules and *bursæ*, but more diffused. This is one of the least tractable forms, and is less amenable to common antiphlogistics and requires specific treatment; depletion alone produces little benefit here. If the disease goes on long, it tends to produce the chronic form, together with muscular paralysis and atrophy. The third variety is the synovial or capsular rheumatism, affecting exclusively the capsules of the joints, and the synovial membrane. It is usually accompanied by great swelling, and distention of the capsules of the joints, particularly those of the knee joint. It is, like the other variety, intractable, and bears a close resemblance to gout. It occurs chiefly in cachectic and debilitated subjects, from an imperfect action of the kidneys. This is the form which becoming chronic, more particularly tends to produce the distortions of which I have been speaking. There are depositions in the joints, forming nodosities, creating permanent stiffness. In this form, too, it is that that peculiar deposit of lithate of soda has been found on the skin after perspiration. This affection closely resembles the chronic form of gout; it is said, too, sometimes to cause metastasis, but it affects the heart less than the other varieties. The fourth variety of rheumatism is the periostitic. Here there is pain, tenderness, puffiness, and swelling over some bony surface,—either over that of the cranium or the tibia. This is generally the result of syphilitic poison. Its tendency is to become chronic, and to produce nodes and bony deposits. It may also arise independently of syphilis. This form of rheumatism affects the head, producing obstinate headaches. It is not confined to the dura matter, but affects the interior of the head. It seems, too, to produce symptoms of a tetanic and convulsive character, closely resembling an attack of chorea. Another variety is the neuralgic, which is seated in the nerves, pro-

ducing severe pain. This rheumatic inflammation affects the sheath of the nerves. In lumbago, the inflammation affects the loins and the back, and by-and-bye the pain settles down into the course of the sciatic nerve, whence there may be severe pain and tenderness down to the leg and sometimes into the scrotum, which obviously arises from the rheumatic affection becoming localised in the sheath of the nerve. It is a form of rheumatism which is less traceable than the others, even with antiphlogistic means. This is another circumstance which tends to prove that the inflammation is dependent not on common causes, but that it is an inflammation of a particular kind, wandering in the system, and exciting inflammation in many parts, and exciting either acute or chronic symptoms in proportion to the intensity of the cause. There in fact seems to be something in the blood which ought to be excreted, an opinion which is confirmed by the peculiar efficacy of certain medicines. Now, taking this view, you will be able to understand what is called metastasis, or the translation of rheumatism; not a translation of the whole disease, but of the morbid matter in the system, operating sometimes on one part, and sometimes on another. This is not the same thing as the disease being translated from one part to another, in which case there would be no simultaneous appearance of the disease in various parts, which we find to occur when the disease is very active. All these inflammations are the results of the operation of the same cause, the *materies morbi*, or morbid matter diffused through the system, simultaneously affecting various parts. Now there is one peculiar rheumatic affection of the heart, that excites more permanent suffering in that organ than any other cause. The heart is continually in motion, never at rest, the inflammation seeming to be completely lodged in it. When the joints are still, the heart is working tumultuously, owing, in connexion with the fever, perhaps to the exciting quality of the blood itself. This is one reason why the heart is so liable to suffer during the attacks of acute rheumatism. I have found that of all cases of acute rheumatism which I have closely examined within the last eight years, the heart has been affected in three-fourths of the number.

The treatment of rheumatism will vary according to its kind. In the sthenic acute cases, particularly the diffused articular, also in the fascial and synovial varieties, copious blood-letting in the very early stage will sometimes arrest the disease, and mild purgatives and other evacuants will complete the cure. But, if the disease has lasted two or three days—especially if it has been preceded by much general disorder—then there is no probability of mere depletion curing the disease; indeed there is some risk arising from its use at this period, or under the above circumstances. Depletion subdues the common inflammation, but it does not remove the cause of the disease from the system. It converts the acute or sthenic into the chronic form of rheumatism. Very often free blood-letting in rheumatism causes metastasis to the heart. The same objection may be applied to local blood-letting from rheumatic limbs particularly in the acute fibrous form. It is much more favourable if the rheumatism remains in the limbs without affecting any other part of the body, such as the interior of the heart. Local treatment never will remove the constitutional cause, nor will blood-letting do so. Blood-letting reduces the system to such a state that other medicines can be brought into operation, and in that way only is it efficacious. It should be used at the first onset without carrying it to an extreme extent. The chief object to be gained by it is to reduce the increased action. The average quantity of blood which it is advisable to draw at a single blood-letting is from 16 to 20 ounces. If the heart is attacked, then apply local treatment. Now what are the medicines which can attack the constitutional causes of rheumatism? There are several that seem to have this power.

Mercury combined with opium seems to have some efficacy in this way, and though it is more of an antiphlogistic remedy, it is yet an important one, and should always be employed when the head has become implicated. In the acute inflammatory form, a large dose of calomel once, twice, or three times a day should be given; the first dose not being combined with opium in order to act as a purgative; the proportion of calomel with opium, in the subsequent doses must vary according to the symptoms. If the inflammatory symptoms increase, it should be combined with antimony, and if the nervous symptoms predominate, opium and morphia should be combined. Dr. McLeod who has written on this subject, discredits mercury, but Dr. Chambers is a great advocate of it. It is not so efficacious alone as in combination with other means, and the most important of these is colchicum, which is the great anti-rheumatic as well as the great arthritic or gout remedy. It is of great consequence to use colchicum from the beginning; not that it takes effect in every acute case, but it begins to saturate the system, which requires that there should be a certain quantity of the remedy in it, or, at least, that the patient should have taken it for some time before it begins to produce its specific effect. The best form to give it in is that of the wine: the doses varying from 20 minims to half a drachm, or even more, three times a day, combined with an alkali. Its effect is to increase the quantity of lithic acid in the urine in a very signal manner, and, as this takes place, the urine increases in quantity and specific gravity, and in proportion to these effects the pains become reduced and subside. There are other remedies that seem to produce the same effect, though in a less degree. These are, iodide of potassium and guaiacum; they operate much in the same way as colchicum, but with much less certainty. Mercury should be administered with colchicum until the gums are affected, or diarrhoea is produced. The object is not to produce diarrhoea if possible, for that is far from being of advantage in the treatment of rheumatism, and I have cured some cases of the disease without sickness being produced. When the rheumatism is severe, diminish the quantity of colchicum, and join opium with it. In the synovial form, mercurial treatment is rarely necessary at all, but the colchicum treatment is the great remedy. The other forms of rheumatism are of the lower kind. Lumbago, which is of an acute character, may sometimes require cupping at the loins, particularly if the kidneys are much irritated, but, generally speaking, colchicum is the proper remedy for it. Sciatica, which often originates from lumbago, may require cupping over the sciatic nerve, but that will yield to colchicum, given in increased doses, and continued for a long time. In the sthenic forms of rheumatism, whether acute or chronic, blood-letting and purgatives or antimony are required, and colchicum is to be given. Mercury may be sometimes necessary, particularly in the fascial form. It is in this form that guaiacum combined with ammonia is efficacious; and iodide of potassium is another effectual remedy here. Tonics are also found useful in this form. Vapour, hot air, and hot baths, are highly serviceable in some of the other forms of rheumatism. The use of the hot bath in acute rheumatism is a most pernicious practice, and I have known many instances in which it has been attended with the most disastrous results. Stimulating embrocations are of great use, particularly those combined with iodide of potassium. In cases where the inflammation is localized, local depletion, blistering, embrocations, and the shampooing bath are necessary. In fascial rheumatism, strychnia applied externally is of use, and some people give it internally. In periosteal rheumatism, great benefit is derived from iodide of potassium as well as colchicum. Sciatica often takes on the chronic form, and it may then be relieved by turpentine frictions and acupuncture.—*Medical Times*, March 29, 1845, p. 543.

## FORENSIC MEDICINE.

## DR. TAYLOR'S REPORT ON THE PROGRESS OF TOXICOLOGY.

(Concluded from page 221.)

A remarkable trial has lately taken place at Chambéry, in which the accused was charged with the murder of the deceased by prussic acid; while, in the defence, it was alleged, that death was owing to apoplexy and not to the poison, (*Annales d'Hygiène*, 1843, p. 103.) The case presents numerous points of interest in relation to medico-legal toxicology; the symptoms and post-mortem appearances met with in apoplexy, as contrasted with those produced by prussic acid; the value of evidence derived from symptoms in cases of poisoning, as well as that obtainable from the period at which death ensues after the supposed administration; the extraordinary chemical errors that are occasionally made in the analysis of poisons, the witnesses in this case imagining that the presence of poison might be inferred from a series of very doubtful or even negative results. The person charged with the crime was very properly acquitted; for there was no medical proof whatever that poison had been the cause of death, while there was direct evidence of death from apoplexy, by the discovery of a large effusion of coagulated blood on the brain. He appears to have owed his acquittal principally to the care bestowed by Orfila, on the examination of the facts of the case.

**Oil of bitter almonds.** One case of poisoning by this substance has lately occurred, and is reported by Mr. Smith of Clifton, (*Lancet*, June, 1844.) A girl, between 8 and 9 years of age, swallowed about a teaspoonful of a mixture sold by druggists as "ratifia," composed of one part of the essential oil of bitter almonds to seven parts of spirit. The quantity swallowed by the patient was equivalent to about seven drops of the essential oil. With this datum it will be interesting to consider the effects produced by so small a dose. When seen immediately after the accident, there was complete insensibility; the eyelids were closed, but the eyes were brilliant and glassy, without any mental expression; the pupils dilated; no pulse at the wrist; the carotids beating fully and quickly; relaxation of the muscles of the extremities, but the lower jaw was clenched in rigid spasm. Cold affusion with stimulants, stimulating frictions and emetics, were employed. Vomiting was induced, and the ejected had a strong smell of prussic acid. In about twenty minutes the pulse returned,—the child opened her eyes, and was able to answer questions.

The quantity of prussic acid contained in the oil, and to which its poisonous properties are due, is said to vary from 8 to 14 per cent. The above case shows that in a small dose it may give rise to very alarming symptoms; and it is probable, that but for the active and prompt treatment adopted, this child would have died.

**Cyanide of potassium.** This salt has of late years caused death in several instances where it has been taken by mistake or in improper doses. A gentleman was killed in France, in 1843, by taking twelve grains of the salt, in consequence of some error in the medical prescription. The physician who ordered the medicine, was tried, fined and imprisoned. (*Lancet*, January, 1843.) Another case occurred at Breslau, in which a man, aged thirty, died in a quarter of an hour after taking a dose of a mixture which had been prescribed for him by his medical attendant, under all the symptoms of poisoning by prussic acid. (*Henke's Zeitschrift der S. A.*, 1843, p. 7.) The mistake here arose from those unfortunate changes periodically made in the nomenclature of pharmacopœial compounds, which constitute a matter of regret among ourselves; for such a practice takes away all certainty from the art of prescribing, and leaves the life of the patient and the character of the practitioner in the hands of a druggist, who may be ignorant of the properties of the medicine which he dispenses.

It appears that until lately the yellow ferrocyanate of potash was known in the Prussian Pharmacopœia under the short name of "kali hydrocyanicum," just as it was formerly called, in English, prussiate of potash, and is now termed ferrocyanide of potassium—an objectionable alteration from the term ferrocyanate, because many dispensing druggists might confound the ferrocyanide with the cyanide, and dispense the poison for the innocent substance. Of late years, in the Prussian Pharmacopœia, the cyanide of potassium has received the name of "cyanetum

kalicum," or, improperly, "kali-hydrocyanicum." Fifteen grains of "kali hydrocyanicum," in a dose, were prescribed by the physician for his patient, he meaning thereby the ferrocyanate of potash. Instead of this, however, cyanide of potassium was sent, and the patient died in a quarter of an hour. The physician adopted and employed the chemical name which was probably current at the time that he studied his profession. The party who dispensed the medicine was undoubtedly to blame; for it appears that he entertained some doubt about the largeness of the dose, and he ought to have known that a dose of such a compound could not be taken by a human being without certainly destroying life. The energy of the cyanide of potassium as a poison depends, in some measure, on its mode of preparation. Some specimens are so impure as to consist almost entirely of carbonate of potash, from which it may be separated by its ready solubility in alcohol. (See *Annales d'Hygiène*, 1843, p. 404, in which this subject is fully investigated by Orfila.) An opinion formerly prevailed, that the poisonous properties of the salt were destroyed under two circumstances: 1, by exposure to air, in which case it is transformed to carbonate of potash; and, 2, by its being heated, in solution, to the boiling point. In neither case, however, does the salt easily lose its poisonous properties. Orfila found that some which had deliquesced, by exposure to air for a fortnight, still acted as a poison; and the conversion of the salt, at 212°, into ammonia and formate of potash takes place so slowly, under the most favourable circumstances, as not to interfere with this poisonous action. This substance does not therefore become innocuous, as it was formerly alleged, by solution in hot water. I have found by experiment that the ebullition of a solution, continued for a quarter of an hour, produced no sensible quantity of formate of potash.

Accidents such as those above referred to often give rise to charges of malapraxis. A case occurred some years since on the continent, in which a physician prescribed three grains of the "muris hydrargyri" for a child. Calomel was then known by the termination "dulcis," and corrosive sublimate by the termination "corrosivus." The dispenser sent corrosive sublimate, and the dose killed the child. The physician was prosecuted for not having been more precise in his prescription; but it is fair to inquire whether a person who would in such a case send three grains of corrosive sublimate, to be taken by a child, was qualified for the dispensing of medicines under any circumstances whatever. Owing to the numerous changes that have taken place in our own Pharmacopœia, it is somewhat surprising that accidents have not occurred. Corrosive sublimate now differs from calomel merely in the prefix "bi," which might be in some cases overlooked. The impolicy of this change is apparent in the fact, that, on a new edition of the Pharmacopœia, if this system of adaptation to ephemeral chemical theories be adhered to, corrosive sublimate will become "chloride of mercury"—the name now attached to calomel; and this latter substance will become a "dichloride." It is the opinion of some distinguished chemists, that what is commonly called peroxide, is a protoxide of mercury, and the protoxide is a suboxide. All will agree that, for the safety of life, the names of medicines should be certain and unchangeable, and not vary with the fluctuating doctrines of the day; at any rate, it is a most serious result when the name attached to an innocent medicine at one time, should become applied to a powerful poison at another. Among the late "probability theories," as Berzelius terms them, which have emanated from the Giessen school, is one by which, if adopted, the present system of chemical and with it the pharmacopœial nomenclature will be completely overturned. Thus, an entirely new view is taken of the constitution of salts; and it is said that, instead of sulphate of potash being formed of an acid united to an alkaline base, it is the result of a union between a compound radical, formed of sulphuric acid and oxygen with the metal potassium. Pharmacy should be entirely independent of such hypothetical views; and all changes in the names of compounds should be made only for some very strong necessity, and with the greatest caution. It cannot be supposed that every practitioner throughout the empire should have the time, even if he had the inclination, to make himself master of the various speculations which are continually broached by chemists.

## NARCOTICO-IRRITANT POISONS.

**Cocculus indicus.** Some researches have been recently made by M. Chevallier on the effects of this powerful poison. (*Annales d'Hygiène*, 1843, p. 339.) It appears that it has been the prac-



tice, in some parts of France, to poison fish by a mixture of this substance with crumbs of bread, and sell the fish for food; and it is stated that, in many instances, such fish were eaten without any ill effects resulting. This, however, was a matter of accident, and depended on the quantity of drug used; when this quantity was moderately large, the fish acted like a poison on animals. It would appear, from the observations of M. Goupil, that it is only the kernel of the berry which is poisonous, owing to the presence of picrotoxine,—that it is narcotico-irritant in its effects, and that the fish destroyed by it exert a similarly poisonous action when eaten. The woody shell of the berry is not poisonous—it merely operates as an emetic.

It appears that, with respect to this pernicious drug, the French system of legislation is like our own. There is a heavy penalty on the sale of it for certain purposes, but the free importation of it is allowed. The large quantities which are said to be openly and secretly imported into this country, can be applied to no lawful purpose; for the substance is utterly useless, both in medicine and the arts. There is no doubt that it is employed for the extensive adulteration of beer. The proper remedy would be to exclude it altogether; for it is absurd to attempt to prohibit its sale by a penalty, when its introduction has been once permitted.

*Cytisus laburnum.* The existence of a new and powerful narcotico-irritant poison has been lately announced by Dr. Christison, in the bark of the common laburnum tree. (*Edin. Med. and Surg. Journ.*, Oct. 1843.) It is remarkable that, considering how widely this tree is diffused, and how accessible it is as a poison, as well as the fact that its noxious properties have been known for some time to the vulgar—at least in certain parts of the kingdom,—it has not before received any attention from toxicologists.

The case reported by Dr. Christison came to trial at the Inner-temple circuit last year. A youth, with the intention merely of producing vomiting in one of his fellow-servants, a female, put some dry laburnum-bark into the broth which was being prepared for their dinner. The cook, who remarked a "strong peculiar taste" in the broth, soon became very ill, and in five minutes was attacked with violent vomiting. The account of the symptoms is imperfect; for the cause of them was not even suspected until six months afterwards. The vomiting continued thirty-six hours; was accompanied by shivering,—pain in the abdomen, especially in the stomach,—and great feebleness, with severe purging. These symptoms continued, more or less, for a period of eight months; and she fell off in flesh and strength. At this period she was seen by a physician, who had been called on by the law authorities to investigate the case. She was then suffering from gastro-intestinal irritation, vomiting after food, pain in the abdomen—increased by pressure, diarrhoea, tenesmus, and bloody stools, with other serious symptoms. The medical opinion was, that she was then in a highly dangerous state. The woman did not eventually recover until the following April. There was no doubt, from the investigation made by Dr. Ross and Dr. Christison, that her protracted illness was really due to the effects of the laburnum-bark.

Some experiments were then made on the action of the poison on animals. A teaspoonful of the powder of dry laburnum-bark was administered to a cat. Soon afterwards it writhed, apparently in great pain; in a short time it vomited violently, and, although languid and dejected for the rest of the day, it quickly recovered. Sixty-nine grains of the same powder were given to a dog. In ten minutes it whined and moaned, vomited violently, and soon got well. On a second occasion, twenty grains were found to act as a powerful emetic upon the animal. An ounce of the infusion of laburnum-bark, containing the active matter of sixty-two grains, was introduced by a catheter into the stomach of a full-grown rabbit. In ten minutes, the animal looked quickly from one side to the other, twitched back its head twice or thrice, and instantly fell on its side in violent tetanic convulsions, with alternating emprosthotonos, and episthotonos so energetic, that its body bounded with great force upon the side, up and down the room. Suddenly, however, all movement ceased, respiration was at an end, the whole of the muscles became quite flaccid, no sign of sensation could be elicited, and the animal died within two minutes and a half after the poison was injected into the stomach. The body was opened in two minutes more, and the heart was found gorged, but contracting with some force. The stomach was filled with green pulp, soaked with the infusion. No morbid appearance was visible anywhere. In repeating this experiment,

one rabbit died in half an hour, another in three quarters of an hour after small doses of the infusion were injected into the stomach; and a third rabbit speedily died, after eating greens merely impregnated with the infusion. In all these instances, convulsions were the leading symptoms produced. The same effects are popularly ascribed to the leaves, young pods, and seeds of the tree; but no experiments were performed with these.

The facts here detailed show that laburnum-bark is a most energetic poison—as powerful, even, as nux vomica. There are no means of detecting the nature of this poison, especially when administered in powder or infusion; or when, as in this criminal case, a decoction of the bark is given in food. The only plan for determining the deleterious properties of the substance, would be by exhibiting a portion to animals. As Dr. Christison remarks, these facts are of considerable importance; and as they relate to a substance so common, and so easily obtained by every one, they ought to be more generally known to the profession than they are at present.

*Oenanthe crocata.* Another instance has occurred lately of the loss of life among the convicts at Woolwich, by the eating of the leaves and roots of this powerful indigenous vegetable poison. The facts have been communicated to the *Medical Gazette*, (May, 1844,) by Mr. Boswey. It appears that a party of convicts ate of the root and leaves of the plant while engaged at work. In about twenty minutes one man, without any apparent warning, fell down in strong convulsions, which soon ceased, but left a wild expression on his countenance. Soon afterwards, as many as nine fell into a state of convulsions and insensibility. The face of the man first seized became bloated and livid; there was a sanguineous foam about the mouth and nostrils; the breathing was stertorous and convulsive; there was great prostration of strength, and insensibility: he died in five minutes. A second died, under similar symptoms, in a quarter of an hour, although the stomach-pump was used, and some leaves were extracted with the fluids. A third, who had assisted in carrying the two former, was himself seized with convulsions, and died in about an hour; and soon after him, a fourth died, in spite of the most energetic remedial treatment, by cold affusion, emetics, stimulants, stimulating frictions, and the use of the stomach-pump. Two other cases proved fatal, the one in nine days, and the other in eleven; and in these two cases, there was irritation of the alimentary canal. On inspecting the bodies of those who died quickly, there was congestion of the cerebral vessels, and in one instance, a layer of extravasated blood was found beneath the pia mater. In the first case, which proved most quickly fatal, the cerebral vessels were not congested. The pharynx and œsophagus had a white appearance, contained some mucus and portions of the root. The lining-membrane of the trachea and bronchi was intensely injected with dark blood. The lungs were gorged with fluid blood. The blood in the heart was very black and fluid. The stomach and intestines were externally of a pink colour; the cavity of the stomach was lined with a thick viscid mucus, containing portions of the root. The mucous membrane was much corrugated, and the follicles were particularly enlarged. Similar appearances were met with in all. In the two protracted cases, the mucous membrane of the stomach and bowels was softened and thickened. It had a pink colour externally, but no red appearance internally. The vessels of the brain were congested. In the others who partook of the roots, the symptoms were not so urgent. Under the free use of purgatives, considerable quantities of the root were discharged, and in a few days the men recovered. By a similar accident in 1834, the lives of four men were lost from the action of this vegetable poison.

There is no doubt that the *œnanthe* is one of the most powerful of the indigenous narcotico-irritant poisons. It destroys life with even greater rapidity than arsenic, for it here proved fatal to a strong healthy man in less than one hour. Chemists have not yet ascertained on what principle its active properties depend, but they appear to reside chiefly in the root.

*Digitalis Purpurea.* The following recent case of poisoning by this plant is reported by Mr. Wilson of Leeds, (*Med. Gaz.*, Aug. 1844.) A healthy robust young man, affected with sore throat, was advised to take "*throatwort tea*." Having filled a quart pitcher with fresh leaves of the *digitalis purpurea*, he poured upon them as much boiling water as the pitcher would hold. Of this strong infusion he took a teaspoonful on going to bed which caused him to sleep soundly. In the morning he took a second cupful (the infusion being then much stronger), and went to his



employment. He soon felt dizzy and heavy, began to stagger, lost his consciousness, and at length fell down in a state of syncope. On being conveyed home, he vomited severely and complained of extreme pain in the abdomen. When visited he was conscious, complained of great pain in his head,—the pupils were dilated, and the surface was cold, pallid, and covered with a copious perspiration. The pulse was low, about 40 in the minute,—three or four feeble pulsations being succeeded by a complete intermission of several seconds; and each stroke, though weak, was given with a peculiar "explosive shock." There was still great pain in the abdomen, with incessant and violent vomiting, no diarrhoea,—suppression of urine, and an abundant flow of saliva. Brandy and ammonia with warmth were employed, and after reaction had commenced,—purgatives were administered. The man slowly recovered, but the pulse presented its peculiar beat and weakness for several days; and during this time, the man could not bear the upright position.

The symptoms in this case were like those which have been usually observed. It establishes beyond question that salivation may be produced by this plant.

**Alcohol.** A singular instance is referred to in a late number of the *Lancet* (April, 1844), in which a child aged 2 years was thrown into an apoplectic stupor, from the alcoholic vapour of eau de Cologne. There is no doubt that the long-continued respiration of the vapour of alcohol or ether might prove dangerous to a child.

**A NEW METHOD OF PREPARING MERCURIAL OINTMENT.**—The irritation of the skin so frequently produced by blue ointment, prepared in the old way, led Orsai to the idea of using precipitated metallic mercury with fresh lard. The reduction of the salts of mercury to the metallic state, in, as is well known, effected by phosphorous acid, or protochloride of tin; the latter of which is employed by Orsai. He dissolves one pound of corrosive sublimate in a sufficient quantity of boiling water, and mixes an excess of protochloride of tin, with an addition of muriatic acid, with the solution. The mixture is now shaken at a moderate temperature for a short time, and the finely divided grey mercury is allowed to settle. When the fluid is poured off, the precipitate should be well washed with warm water, dried between bibulous paper, and then mixed with the prescribed quantity of fresh lard. The fine state of division of the precipitated mercury renders this preparation of the ointment very expeditious. The only difficulty encountered in this method is the readiness with which the precipitated grey mercury forms metallic globules, especially if the precipitate be allowed to stand too long, and dry after pouring off the fluid. This union of the globules may, however, be prevented, by covering the interior of the vessel in which the mercury is precipitated with fat. Ointment prepared on Orsai's plan exhibits no globules of metal under the lens, and can at the most only contain a trace of oxide of tin, if sufficient muriatic acid be not employed in the preparation, or the precipitate be inadequately washed. Ointment prepared in this way is certainly more expensive, but is free from all rancidity, and does not require much rubbing down.—*Braithwaite's Retrospect*.

**ON THE PURIFICATION OF HONEY.**—By *M. Veling*.—The white of one egg is beaten up with five pounds of honey till it froths; as much water is then added as is sufficient to form the consistence of a thinnish honey; it is then mixed, and boiled until the albumen can be removed with the froth; it is then poured into an upright vessel, two or three inches above the bottom of which a cock is inserted; it is well covered, and set aside in a cellar for six or eight weeks. The impurities, which otherwise stop up the filter, or the finer portions of which pass through, become coagulated in the vessel, and collect at the bottom and on the sides, and the honey can be drawn off clear by the cock.—*Archive der Pharm.*, xl. p. 155.

**ADULTERATION OF JALAP ROOT.**—Sometimes brown, ragged, pear-shaped fragments, are found mixed with the true jalap root, which resemble it very much externally, but are not so heavy, and are either soft and flexible, or readily broken when they have been roasted. In many pieces, fibres may be distinctly perceived, and from this, as also from their sweet taste, they would seem to be dried fruit which had been immersed in tincture of jalap, and have thus been rendered somewhat acrid to the taste. Similar adulterations have also been observed in articles sent under the name of jalap root from Bremen.—*Archiv. der Pharm.*, *M. Ingenohl*.

**ON THE DETECTION OF PRUSSIC ACID IN CASES OF POISONING.**—By *M. Witting*.—The method recommended by the author in suspected cases of poisoning by prussic acid, is to mix the mass with one-sixth of its bulk of alcohol, and to distil off one-fourth. If it contain prussic acid, the distilled product generally evolves its peculiar smell. To this product a little caustic potash is added, and then a mixed acid solution of protochloride and perchloride of iron, when prussian blue is formed. If it be suspected that the poisoning was effected with cyanide of potassium, cyanide of zinc, &c., some hydrochloric acid should be added along with the alcohol previous to distillation. (*Berzelius's Jahresbericht*, xxiv. p. 269.)—*From the Chemical Gazette*.

**ADULTERATION OF SAFFRON.**—J. Muller recommends concentrated sulphuric acid as the most certain test for saffron, for it immediately turns the colour of pure saffron to indigo blue, (it, however, soon changes to dark red and brown.) The leaves of *crocus vernus*, which form the most frequent adulteration, are coloured of a dark green by sulphuric acid.—*Archive der Pharm.*

**TOOTH POWDERS.**—Take powder of red bark, bole armeniac, sifted, of each one ounce; powder of cinnamon, half an ounce; bicarbonate of soda, half an ounce; oil of cinnamon, two or three drops.—mix. This is an excellent tooth-powder, unobjectionable in every respect. Carbonate of magnesia may be substituted for the bicarbonate of soda, or precipitated carbonate of lime; but the solubility of the bicarbonate of soda renders it preferable.—*Lancet*.

THE

## British American Journal.

MONTREAL, DECEMBER 15, 1845.

### THE PROVINCIAL MEDICAL ASSOCIATION AND THE MEDICAL SOCIETIES.

In our last number was contained the Report of the Medical Society of Quebec, with its proceedings on the Report of the Delegates of the Medico-Chirurgical Society of this city, relating to the events connected with the late attempt to form a Provincial Medical Association in this Province. We have until now purposely refrained from any observations upon it; and while we cannot but admire it for the conciliatory spirit which it manifests, and its desire to smooth down the asperities which led to and have succeeded a rupture, which every friend to the medical profession must deplore, we yet cannot avoid noticing a few of its statements; and we feel that we are able to do this without laying ourselves open to a charge of favouritism or bias, inasmuch as with the proceedings of the Society of this city relating to this matter, from their commencement until the day in which its delegates were named, we have had nothing whatever to do. We purpose not to express the slightest opinion on the treatment which the Medico-Chirurgical society of this city received, through its delegates, at the attempted convention. With this we intend to have nothing to do, as the society has already expressed itself on the matter, but we do purpose to show, and this too from official sources, and official correspondence between the secretaries of the different medical societies of the province concerned, that, in the first place, the convention was originally intended to

have been *exclusively* confined to "the medical societies," and in the second, that there were no grounds for any "misunderstanding in the mode of calling the convention."

At a meeting of the Medico-Chirurgical Society of this city, held on the 25th Jan., 1845, we find recorded the following minute, in reference to previous correspondence held on the subject:—"The secretary (Dr Badgley) then read a letter from Dr. G. R. Grasett, secretary of the Toronto Medico-Chirurgical Society, *offering their hearty co-operation in carrying out those measures which may tend to advantage either the mutual interests of those societies respectively, or of the medical profession of Canada generally.*" The following resolutions were then moved by Dr. Badgley, seconded by Dr. Fraser, and carried unanimously:—"That this society accept with pleasure the proffered co-operation of the Toronto Medico-Chirurgical Society, in carrying out those measures, *originated by them*, for the advancement of medical science, the elevation of medical character, and the establishment of union and cordial feeling among the members of the profession, the tendency of which cannot but prove of paramount importance to the profession and the public," and 2nd—"That the secretary put himself in communication with the *secretary of the Quebec Medical Society* with a view to establish a friendly correspondence with that society on the subject." In these two resolutions, then, of this society, with the correspondence of the Toronto society, upon which they are based, we find the germ gently developing itself, which, when ripened, was to have brought forth such valued fruits. The connexion with the Quebec society was now commenced, and its *cheerful acquiescence* in the scheme was shortly afterwards announced through its secretary, an extract of whose letter we shall shortly subjoin.

At a meeting held on the 8th of February, we find the following minute:—"Dr. Badgley submitted a series of resolutions for the adoption of the society, having for their object the formation of a general association of the members of the medical profession in the Province;" the consideration of which was postponed to the 8th of March, which was appointed a day of special meeting for the purpose. These resolutions were as follow, the italics being our own:—

I. *Resolved*:—"That, with a view to carry out the objects originally contemplated in establishing this Society, and that the Members of the profession generally, scattered through this extensive Province, may feel that there exists a centre round which they can rally, *It be proposed to the Toronto Medico-Chirurgical Society, and the Quebec Medical Society, that a general Association be at once formed, under the name of "The Medical Association of Canada," and that the Members of the existing Societies, and of all such other Societies as shall hereafter be formed for the same purposes, be considered de facto Members.*

II. *Resolved*:—"That the objects of this General Association shall be, the advancement of Medical Science in the

most extended sense of the term, but especially, the acquisition of statistical information regarding this country, as tending to settle the mean duration of life, under the peculiarities of climate, geographical position, geological structure, and atmospherical influences, the protection of the interests of the qualified and licensed practitioners against the inroads and usurpations of the unlicensed, the establishment of that union and good feeling among the members of the profession, which should characterize men engaged in the same pursuits, and animated by the same desire to see their profession in Canada occupy its merited position, and the formation of a fund for the relief of incapacitated or decayed, but deserving members, their widows and orphans.

III. *Resolved*:—"That the Association shall meet in each successive year, at a city or town in Eastern or Western Canada; that the Members of the different branch Societies who shall be present at the annual meeting, shall represent the societies to which they belong respectively; that members of the profession not belonging to such branch Societies shall be admitted into the Association by ballot, on presentation of the degree diploma, or license under which they are practising; and that the transactions of the Association be yearly published, under the supervision of the respective Committees who have conducted the investigations to which the several papers refer, and of a general Committee of Management.

IV. *Resolved*:—"That the annual subscriptions be devoted to meeting the necessary expenses attendant on the publication of their transactions, and for the ordinary business of the Society, and to offering prizes for the best communications on subjects of interest, to be determined upon at the annual meetings.

V. *Resolved*:—"That Members of the profession not being already Members of the existing Societies, or of any other Branch or District Societies, to be hereafter formed, be required to pay, in addition to their annual subscription, an entrance fee: but that a strong recommendation be made for the establishment of such District Societies, with a view to their general amalgamation.

Finally, at the special meeting held on the 8th March, Dr. Crawford in the chair, after a lengthened conversation on the "suggestions," conveyed under the name of "resolutions," just recorded, and which had been submitted to the meeting, it was moved by Dr. Nelson, seconded by Dr. Bowie, and resolved unanimously:—"That, in the opinion of this society, it is expedient that a general association be formed among the members of the profession in this province, with a view to the advancement of medical science, and the protection of the interests of members of the profession;—and 2nd, moved by Dr. Arnoldi, seconded by Dr. Trastler, it was resolved—"That the secretary be instructed to transmit a copy of the above resolutions, and of the suggestions submitted to this meeting, as indicative of the objects which this society deems essential, or worthy of consideration in the formation of such an association, to the secretaries of the Toronto Medico-Chirurgical Society and the Quebec Medical Society, with a request that they be submitted to those societies for their consideration and adoption." We think now, that whatever previous suggestions had been thrown out as to the propriety of an association of the kind, for any or all the measures contemplated, the

society of this city may with the utmost fairness claim the merit of having taken the first decided step in the matter. This will be further apparent when we consider the official correspondence which originated from the above proceedings, extracts from which we purpose now to give.

In a letter, dated Jan. 10, 1945, Dr. Grasett, secretary to the Toronto Medico-Chirurgical Society, "desires to express the willingness they (the Toronto Medico-Chirurgical Society) entertain to co-operate with the Montreal Medico-Chirurgical Society in any measure which may be regarded as tending to promote the mutual interests, of these institutions, or the interests generally of the medical profession in this country.

In a letter, dated April 12, 1945, Dr. Nault secretary to the Quebec medical society, after a meeting, held on the 7th, thus replies to a letter submitted by him, from Dr. Badgley, to that Society—"J'ai été chargé de vous prier de témoigner à la Société Médico Chirurgicale de Montréal, le plaisir et l'impressionnement avec lequel la Société de Médecine de Québec accepte l'alliance qu'elle (the Montreal Medico Chirurgical Society) lui propose. Fondée comme celles de Montréal et de Toronto dans le but de former un lien d'union et de fraternité entre ses Membres, de veiller à leur protection mutuelles, et de travailler de concert au progrès des Sciences Médicales, la Société de Médecine de Québec sera aussi fière et heureuse, de donner son appui et sa co-opération à toutes les mesures qui pourront être prises pour améliorer et relever l'état de la Profession Médicale en Canada. Comme rien ne pourrait contribuer plus promptement à amener cette fin si désirable qu'une association comme celle que vous proposez ENTRE LES DIFFÉRENTES SOCIÉTÉS MÉDICALES DE LA PROVINCE, j'ai raison de vous dire que la Société de Québec est prêt à joindre ses soins, et à vous assurer, en particulier de la bonne volonté de CHACUN DE SES MEMBRES de vous seconder de tous leurs efforts, &c."

Such then were the two responses from the sister societies of the province in regard to their co-operation. But we proceed, and to the subsequent letter we request particular attention. The resolutions adopted at the special meeting of the 8th March, having been duly transmitted to the secretaries of the Quebec and Toronto medical societies, the following reply was returned from the first mentioned, which we give entire.

{ QUEBEC MEDICAL SOCIETY,  
May 12, 1945.

SIR,—I have had the honour to submit to our Medical Society, at the last monthly meeting, your letter of the 7th April last, containing a series of resolutions, having for their object, the formation of a General Association of the Members of the Medical Profession in Canada.

I have much pleasure in informing you, that these reso-

lutions, after having been taken into consideration, were unanimously adopted, except the second, which was amended by the following: "That it is expedient to establish a general and approved Tariff of fees, in which the system of attendance on families, by contract, shall be included.

I have the honour to be, Sir, your obedient servant,

J. Z. NAULT, Sec. Q. M. S.

F. Badgley, Esq., M. D. }  
Sec. M. M. C. S. }

From the second, or the Toronto Medical Society, an answer was also returned, signifying an acquiescence in "all its leading particulars."

When therefore we consider, that according to the first suggestion or resolution entertained at the special meeting of the Montreal Medico-Chirurgical Society, held on the 8th of March, that "the members of the existing Societies, and "of all such other Societies as shall hereafter be formed for the same purposes," shall constitute "the general association," "that members of the profession, not belonging to branch societies, shall be admitted into the Association by Ballot," and when we further consider that the Quebec Medical Society "unanimously" adopted the very resolutions in which these formative elements of the association, (if we may use the term), were alone recognized, we ask if that Society did not recognise the principle that the Association, intended to have been formed, should not have been, at least in the first place, exclusively confined to the "MEDICAL SOCIETIES?" It appears to us that this is an inference clear and unavoidable from the premises laid down; and we may now not unfairly, nor indeed unreasonably, demand how the Medical Society of Quebec could, consistently with its obligations to the Medico-Chirurgical Society of this city, contained in its expressions of concurrence and co-operation, depart not only from the spirit, but the letter of its contract, and summon a meeting of the Profession of its district, to do what?—to appoint delegates to a meeting, from which by a previously deliberately expressed resolution, they had determined that none but members of "the existing Medical Societies," or "such others as might have been formed for the same purpose," should be present. We thus clearly, in the first place, trace the unfortunate result of the Convention to the error of the Quebec Medical Society, in calling a district meeting of the Profession of Quebec, for the nomination of Delegates to a convention, at which, unless that district meeting had first constituted itself a District Society, its Delegates had, we maintain, no right to sit; and in the second place, to the district meeting of the Profession of this part of Canada East, for the purpose of nominating Delegates to the same convention, at which, they also, for the same reason, had no right to be present. The same observation applies to the Delegates from the District

of Three Rivers; but Dr. Hodder, while he represented the Profession of the Districts of Niagara and Toronto, "represented also their Medical Societies, which in both cases were 'District Societies,'" a fact which the Medical Society of Quebec silently passes over.

We conceive that the position assumed by the Medico-Chirurgical Society of this city, in refusing to sanction a meeting of the Profession of this District, for the nomination of Delegates to the convention, was perfectly proper, and it requires but little calm reflection, to determine its correctness, and a less amount of candour to admit it. In this position, minds only, accustomed to view things through the distorting medium of their own obliquity, can trace anything like intended or studied offence to the mass of the Profession. There is nothing in its proceedings to warrant, or give the slightest countenance to an assumption of the kind, but on the contrary, anticipating difficulties, it did every thing in its power to avert them, (see page 167), and we feel assured, its efforts would have been crowned with success, had not the scheme of changing the *character* of the convention, from one of "societies," to one of "districts," and thus excluding the Medico-Chirurgical Society of this city, which had originated the very measure, from all participation in it, been *predetermined* and too successfully executed.

As regards a "misunderstanding in the mode of calling the convention," we are perfectly at a loss to conceive how this could have arisen, with the "resolutions" or "suggestions" before it, to which it had given in its "unanimous adherence." These resolutions amply indicated of what character the convention was to have been. *The day was even fixed by the Quebec Society*, and short although the time was, the zeal of the Profession of the Niagara and Toronto Districts, was found perfectly adequate to the emergency.

We have probably devoted more space to this matter than, in the estimation, it may be, of some, it now deserves; our attention, however, having been recalled to the subject, by the publication in our last number of the report of the Quebec Medical Society, we have thought it a matter of duty to place these facts on record, that the profession may draw their own inferences from them. In expressing our own opinion on the matter, our object is not to sway theirs. The scheme which has been defeated, was one involving objects of too serious, too important a nature, that a detail of all the circumstances connected with it should not be submitted to that Profession whose interests have been thus affected. We have endeavoured to discharge this duty conscientiously, and we hope independently, and in thus venturing to differ from the Quebec Medical Society, we desire not to derogate from its high position, nor is our respect for it, or those of its members, many of whom we have the

pleasure of ranking among our personal friends, in the slightest degree diminished.

#### ESTABLISHMENT OF A MEDICAL SOCIETY AT HONG-KONG.

A meeting of the Medical men, practising in the city of Hong-Kong, in China, was held on the 13th May last, at the residence of Dr. Dill, who acted as secretary on the occasion, Dr. Tucker having been called to the chair. The following gentlemen were present. Drs. Tucker, Kennedy, Dill, O'Sullivan, Barton, Traill, Gilbert, Holgate, Young, Little, and Webber. Eleven resolutions were passed, of which the following is an epitome:—That it is desirable to form a Society, the chief objects of which are to be a more intimate intercourse among the medical men practising in China, for the sake of giving and receiving information on Medical and Surgical subjects; the formation of a Medical Library, and the discussion of topics relating to the prevalent diseases of China, and the native *Materia Medica*. After having resolved to denominate the Society, "The China Medico-Chirurgical Society," and the transaction of business relating to its monetary arrangements, and plans for interchange of proceedings with institutions of a similar nature in India and Great Britain, the office bearers for the year were appointed, viz., Dr. Tucker, President, Dr. Hobson, Secretary, Dr. Young, Librarian, and Drs. Dill, Barton, and Holgate, to be a committee of management.

*CHEMICAL TABLES, containing a list of the Elementary Substances, with their symbols and atomic weights, and the general principles of the Chemical nomenclature, for the use of Students.* By G. HOSE, Montreal.

The foregoing is the title of an unpretending little publication lately issued from the press by Mr. Hose, of this city. Designed especially for the use of Students, they will find it of some assistance; for as the atomic weights of the elementary bodies are given in the nearest round numbers, they will be more easily remembered. From that circumstance, however, it is rendered useless to the analytical Chemist, in whose computations the utmost nicety is required. Several errors appear to have crept in while passing through the printer's hands. Thus in the list of the metallic acids, we find the Mellitic, which is manifestly here out of place; and the formulas of several of the organic acids are erroneously given, *e.g.* Benzoic Acid contains  $C_{14} H_5 O_3$  instead of  $C_{15} H_5 O_2$  and Sebaccic Acid is composed of  $C_{10} H_5 O_3$  in place of  $C_{10} H_7 O_3$ . Mr. Hose deserves credit for presenting to the Student an epitome of important facts in this department of science; and it is much to be regretted that his printer has not done him the full justice which he merited.

*The New York Medical and Surgical Reporter*, edited by CLARKSON T. COLLINS, M.D., New-York. Nos. 1, 2, 3, and 4.

The four first numbers of this periodical have reached us, which is designed to be a faithful expositor of the practice of the New York hospitals, in the medical and surgical clinics established there. It promises to be of considerable use, and will undoubtedly become a valuable adjuvant to the medical literature of the day. Its peculiar field is extensive, and under judicious culture ought to afford valuable results. It has our best wishes for success.

### KING'S COLLEGE, TORONTO.

A Convocation was holden at King's College, Toronto, on the 23d October last, at which the following degrees were conferred:—

M.D. (*ad eundem.*)—Lucius O'Brien, Edinburgh.

M.A.—Stafford Lightburne, William Ramsey, Fredk. W. Barron.

C.M.—Frederick M. Hodder.

B.A.—John Helliwell, Samuel S. McDonell, William Webb, Henry John Boulton, George Crookshank, Geo. W. Draper, Walter Stennett, John Roaf, James Stanton,

James Hagerman, Norman Bethune, Elliot Grasett, Thomas McLean, John E. Thomson, Delos White Beadle, Ira Lewis.

B.A. (*ad eundem.*)—Stafford Lightburne, Dublin. Sixteen new matriculations afterwards took place.

### BOOKS, &c., RECEIVED DURING THE MONTH.

Summary of the Transactions of the College of Physicians of Philadelphia. May to October.

Boston Medical and Surgical Journal. Nos. 16 to 18.

New-York Medical and Surgical Reporter. Vol. I. Nos. 1 to 4.

Dublin Medical Press. Nos. 355 to 358.

Buffalo Medical Journal. No. 7.

Stockton's Dental Intelligencer. Vol. II. No. 1. Philadelphia.

Provincial Medical and Surgical Journal. Vol. II. No. 46. London.

Southern Medical and Surgical Journal. December No.

The Medical Examiner. December No.

### NOTICE TO CORRESPONDENTS.

We have to acknowledge the receipt of a paper "on a Case of Hydrocephalocoele," from Dr. Yates, of Kingston. It will appear in the next number, having been received too late for insertion in the present.

In our next we will commence the publication of the "Bills of Mortality" for this city, in monthly returns.

### MONTHLY METEOROLOGICAL REGISTER AT MONTREAL—NOVEMBER, 1845.

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1.	+51	+60	+48	55.5	29.70	29.69	29.67	29.67	S. W.	S.W.byW	S.W.byW	Rain	Fair	Fair
2.	" 37	" 53	" 45	45	29.76	29.76	29.76	29.76	W.	W.	W.	Fair	Fair	Fair
3.	" 39	" 45	" 42	42	29.73	29.72	29.70	29.72	N.E.	N. E.	N. E.	Rain	Rain	Fair
4.	" 41	" 54	" 47	47.5	29.69	29.67	29.62	29.66	N. E.	N. E.	N. E.	Fair	Rain	Rain
5.	" 45	" 50	" 44	47.5	29.55	29.58	29.64	29.59	W.	W.	W.	Rain	Fair	Fair
6.	" 41	" 48	" 44	44.5	29.67	29.68	29.72	29.69	S. W.	S. W.	S. W.	Fair	Rain	Cloudy
7.	" 38	" 45	" 36	41.5	29.86	29.84	29.80	29.83	S.W.byW	S.W.byW	S.W.byW	Fair	Fair	Fair
8.	" 34	" 41	" 35	37.5	29.80	29.80	29.80	29.80	S.W.byW	W. by S.	W. by S.	Cloudy	Rain	Fair
9.	" 33	" 38	" 36	35.5	29.64	29.53	29.46	29.54	N. E.	N. E.	N. F.	Cloudy	Rain	Rain
10.	" 37	" 40	" 34	38.5	29.32	29.47	29.72	29.50	N.W.byN.	N. W.	N. W.	Fair	Fair	Fair
11.	" 39	" 40	" 30	35	29.85	29.91	30.00	29.92	N. W.	N. W.	N. W.	Fair	Fair	Fair
12.	" 30	" 38	" 27	38	30.10	30.07	30.05	30.07	N. W.	N. W.	N. W.	Fair	Fair	Fair
13.	" 34	" 47	" 40	40.5	29.93	29.85	29.70	29.83	W. by S.	W. by S.	W. by S.	Fair	Fair	Fair
14.	" 43	" 40	" 35	41.5	29.56	29.62	29.73	29.63	W.	W.	W.	Fair	Rain	Rain
15.	" 25	" 40	" 35	32.5	30.00	29.97	29.55	29.84	N.W.byN.	N.W.byN.	N.W.byN.	Fair	Fair	Fair
16.	" 34	" 50	" 36	42	29.55	29.50	29.74	29.60	S.W.byW	W. S. W.	W. by N.	Fair	Fair	Fair
17.	" 30	" 46	" 37	38	29.94	29.90	30.04	29.96	W.	W.	W.	Fair	Rain	Rain
18.	" 37	" 44	" 40	40.5	29.96	29.89	29.80	29.88	N. W.	N. W.	N. W.	Rain	Rain	Rain
19.	" 46	" 48	" 42	47	29.66	29.63	29.58	29.62	N. W.	S. W.	S. W.	Rain	Fair	Fair
20.	" 36	" 47	" 45	41.5	29.58	29.52	29.38	29.49	W. by S.	W. S. W.	W.	Fair	Fair	Rain
21.	" 35	" 41	" 33	38	29.45	29.53	29.65	29.54	W.	W. N. W.	W. N. W.	Fair	Fair	Fair
22.	" 29	" 39	" 34	34	29.83	29.83	29.83	29.83	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
23.	" 34	" 39	" 31	36.5	29.50	29.43	29.54	29.49	S.	S. W.	W.	Snow	Rain	Fair
24.	" 17	" 23	" 24	20	30.04	30.15	30.26	30.15	N. W.	N. W.	N. W.	Fair	Fair	Fair
25.	" 25	" 31	" 29	28	30.26	30.26	30.24	30.25	N. W.	S. W.	S. W.	Cloudy	Fair	Cloudy
26.	" 27	" 35	" 30	31	30.40	30.29	30.12	30.27	W. by S.	W. by S.	W.	Fair	Fair	Cloudy
27.	" 34	" 36	" 15	35	29.68	29.62	29.66	29.65	N.E.byE	N. E.byE.	N. E.	Rain	Rain	Stormy
28.	" 5	" 10	" 5	7.5	29.98	30.13	30.30	30.14	W. by S.	W.	W.	Fair	Fair	Fair
29.	" 0	" 18	" 15	9	30.56	30.60	30.62	30.59	W.	W.	W.	Fair	Fair	Snow
30.	" 18	" 26	" 22	22	30.48	30.38	30.37	30.41	N. W.	N. W.	N.	Fair	Snow	Snow

Therm. } Max. Temp., 60° on the 1st  
} Min. " 0° " 29th  
Mean of the Month, 36° 4'

Barometer, } Maximum, 30.62 Inches on the 29th.  
} Minimum, 29.32 " " 10th.  
Mean of Month, 29.83 Inches.

# MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—NOVEMBER, 1845.

Latitude 43°. 39' 4". N. Longitude 79°. 21' 5". W. Elevation above Lake Ontario, 108 Feet.

DAY.	Barometer at Temp. of 32°.			Tension of Vapour.			Temperature of the Air.			Humidity of the Air.			Wind.			Rain or Snow.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.		
1,	29.386	29.286	29.299	29.292	.276	.194	.192	.236	47.3	57.8	39.4	46.6	.86	.41	.80	.080	Generally clear.
2,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Clouded.
3,	29.081	29.139	29.237	29.173	.212	.261	.242	.241	37.6	46.1	41.0	41.6	.95	.85	.95	.300	Raining a.m. Clouded all day.
4,	29.318	29.353	29.366	29.344	.219	.221	.200	.210	38.9	44.1	40.5	41.5	.93	.77	.80	—	Mostly clouded.
5,	29.275	29.283	29.319	29.298	.208	.206	.200	.212	39.0	42.4	40.3	41.6	.88	.76	.81	—	Clouded. Drizzling rain 2 p.m.
6,	29.291	29.332	29.353	29.433	.215	.271	.216	.229	41.7	44.8	39.9	41.8	.82	.92	.88	—	Raining from 10 a.m. to 4 p.m.
7,	29.637	29.524	29.435	29.493	.182	.206	.226	.211	37.8	41.8	39.3	39.3	.80	.79	.93	.170	Clouded. Slight rain 1 and 2 a.m.
8,	29.341	29.423	29.450	29.382	.186	.170	.181	.173	36.2	34.1	33.5	34.9	.94	.87	.95	.100	Rain a.m. Slight snow, 6, 7, 8 p.m.
9,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.015	Partially clouded.
10,	29.340	29.360	29.449	29.405	.167	.226	.169	.192	35.9	45.4	38.2	39.2	.79	.75	.73	—	Partially clouded.
11,	29.501	29.579	29.657	29.603	.183	.206	.181	.190	37.0	42.4	37.4	37.8	.88	.76	.81	—	Densely clouded all day. [p.m.
12,	29.708	29.717	29.728	29.723	.152	.175	.141	.162	30.0	40.1	30.8	35.8	.91	.71	.81	—	Genly cloudy—halo round moon 8
13,	29.688	29.499	29.402	29.502	.188	.296	.231	.236	35.8	50.0	45.5	44.5	.90	.84	.76	—	halo 1 a.m., clouded a.m., mostly clear p.m.
14,	29.404	29.409	29.596	29.501	.211	.181	.193	.199	40.1	49.2	38.3	41.9	.86	.51	.85	—	Mostly clear.
15,	29.699	29.597	29.428	29.573	.157	.226	.221	.205	30.8	43.1	42.1	38.6	.92	.83	.83	—	Generally clouded.
16,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Unclear but hazy.
17,	29.508	29.499	29.507	29.511	.225	—	—	.290	39.3	46.2	48.7	45.8	.94	1.00	1.00	—	Hazy a.m. Rain 10 a.m. to 4 p.m.
18,	29.493	29.357	29.176	29.322	.319	.349	.329	.326	47.1	52.1	52.3	51.1	1.00	.91	.86	.255	Rain 0 to 5 a.m. and 9 to 12 p.m.
19,	29.300	29.325	29.317	29.311	.300	.194	.156	.186	44.6	42.9	31.2	39.7	.69	.71	.90	.030	Raining a.m., clear 8 to 12 p.m.
20,	29.200	29.062	29.129	29.145	.195	.275	.207	.219	37.2	51.2	42.8	44.0	.88	.74	.75	—	halo round moon a.m., genly cloudy
21,	29.274	29.354	29.463	29.406	.124	.135	.132	.138	33.6	36.2	27.0	33.0	.64	.63	.86	—	Mostly clear.
22,	29.579	29.511	29.206	29.517	.142	.147	.187	.146	31.0	35.6	37.6	32.1	.81	.69	.83	—	Genly cloudy, particles of snow, p.m.
23,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.235	Rain a.m. Occasional light snow.
24,	29.802	29.856	29.883	29.852	.099	.091	.103	.103	21.2	26.8	24.0	24.7	.84	.61	.77	—	Genly clear. Detached clouds.
25,	29.729	29.699	29.699	29.795	.170	.139	.126	.144	31.9	38.3	33.6	34.7	.95	.60	.66	—	Overcast. Dense haze.
26,	30.006	29.814	29.602	29.741	.154	.152	.151	.144	32.4	32.6	31.7	30.8	.84	.82	.84	—	Overcast. Dense haze. Foggy.
27,	29.463	29.437	29.543	29.504	.096	.091	.071	.077	21.8	21.8	14.2	17.6	.79	.78	.80	—	Snow 1 to 11 a.m., clear 12 p.m.
28,	29.708	29.792	29.944	29.860	.038	.074	.067	.062	7.6	19.3	14.6	13.8	.57	.68	.75	—	Auroral light 0 a.m., genly clear.
29,	30.062	30.084	30.060	30.020	.072	.108	.105	.092	15.4	20.8	20.6	19.6	.78	.93	.91	—	Clear a.m., snow noon to 6 p.m.
30,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Mostly clouded.
Mean	29.512	29.492	29.504	29.508	.176	.192	.176	.185	34.0	40.2	35.4	36.5	.85	.75	.83	Total, 6.185	

\* Rain, 1.185 inches. Snow, 5.0 inches—Total, 6.185 inches.

Highest Barometer, .. .. . 30.125 at 10 a.m. of 7th.  
 Lowest do. .. .. . 29.053 at 4 p.m. of 20th.  
 Highest Temperature, .. .. . 59.5 on 1st, p.m.  
 Lowest do. .. .. . 13.6 on 28th, a.m.  
 Mean Daily Range, .. .. . 32.5 on 1st, p.m.—21, a.m.  
 Extreme Daily Range, .. .. . 32.5 on 1st, p.m.—21, a.m.

Proportion of Wind from each Quarter—  
 N.W. .. .. . 159  
 N.W. .. .. . 179  
 N.E. .. .. . 61  
 S.E. .. .. . 35  
 S. .. .. . 216  
 Proportion of Calm, .. .. . 216

Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to its presence.  
 Under the head of Humidity of the Air, is given the proportion the Aqueous Vapour bears to the quantity the air is capable of sustaining at the existing temperature, saturation being represented by 1.00.  
 The Instruments are standard Instruments. The Rain Gauge 57 7/8 in. above the soil.  
 The Means entered are the Means by 24 hourly Observations, from 6 a.m. to 6 p.m.  
 The quantity of Rain received each 24 hours, is noted at 8 a.m., and is marked in inches.

# THE BRITISH AMERICAN JOURNAL OF MEDICAL AND PHYSICAL SCIENCE.

Vol. 1.]

MONTREAL, JANUARY, 1846.

[No. 10.]

## ON INDIAN DISEASES AND REMEDIES.

*With a return of sick treated at the Indian establishment Great Manitoulin Island, Lake Huron, in 1841-2.*

By WILLIAM WINDER, M. D., Montreal.

(For the British American Journal Medical & Physical Science.)

There having appeared in a former number of this Journal, a paper on the diseases of the slaves of the Southern States, it occurred to me, that something of the same kind on those of the Aborigines of this continent might prove worthy of attention; and Dr. Darling, the medical officer of the Indian department, at the Manatouawning Islands, on Lake Huron, having kindly favoured me with a copy of his sick report, at that station, for the year 1842, with some excellent remarks on particular cases, I have ventured to think they will be found not altogether unworthy of notice.

To the following report and remarks, I shall take the liberty of adding some observations on the indigenous remedies of the Indians, and their own mode of treating the diseases to which they are particularly liable.

*Return of Sick treated at the Indian Establishment, Manatouawning, Wequanekong, &c., Gt. Manitoulin Island, Lake Huron, from 16th August, 1841, (date of last Return,) to 31st December, 1842.*

Disease.	No.	Disease.	No.
Teeth extracted,.....	68	Simple fever,.....	14
Lientery,.....	2	Concussion of Brain, with	
Gall Stones,.....	1	Paralysis,.....	2
Diarrhea,.....	42	Do. of do., with wound	1
Dysentery,.....	46	Difficult Dentition,.....	28
Ophthalmia, acute and		Ulcerated Throat,.....	4
chronic,.....	32	Dysuria,.....	1
Inflammation of Windpipe	1	Paralysis,.....	2
Do. of Mucous Mem-		Worms,.....	21
brane of Lungs,.....	4	Hypochondriasis (a White)	1
Do. do., chronic,.....	19	Difficult Labour, Indian,...	1
Wasting,.....	6	Aneurism by Anastomosis,...	1
Vomiting,.....	10	Ophthalmia Jarsi, &c.,.....	13
Inflammation of Liver,...	2	Diseased Knee,.....	1
Do. of Brain,.....	2	Do. Shoulder,.....	4
Do. of Breast,.....	4	Do. Hip,.....	2
Do. of Lungs,.....	3	Do. Spine,.....	4
Do. of Throat,.....	28	Ulcers,.....	10
Rheumatism, chronic,.....	40	Epilepsy,.....	6
Do. acute,.....	3	Menorrhagia,.....	1
Colic,.....	12	Porriro,.....	13
Boils,.....	8	Catarrh,.....	50
Amenorrhœa,.....	4	Erysipelas,.....	7
Neuralgia,.....	14	Burns, 1 fatal,.....	1
Gonorrhœa,.....	8	Dysmenorrhœa,.....	1
Sciatica,.....	5	Pleurodynia,.....	3
Abscess,.....	11	Debility,.....	1
Abscess of Lumb. r.,.....	1	Bloody Urine,.....	1
Abscess of Breast,.....	2	Retention of Urine, (fatal,)	1
Do. of Vagina,.....	1	Procidencia Uteri,.....	1

Disease.	No.	Disease.	No.
Childbirth (Whites),.....	3	Lumbago,.....	6
Weed,.....	1	Amentia,.....	1
Contusion,.....	23	Loss of Voice,.....	1
Dropsy of Head, and Spina		Periostitis,.....	1
Bifida,.....	1	Menorrhagia,.....	1
Do. of Head,.....	2	Hooping Cough, no ac-	
Do. of Abdomen,.....	1	count kept,.....	
Esrache,.....	14	Gravel,.....	1
Whitlo,.....	2	Dyspepsia,.....	6
Nævus and inflamed		Constipation,.....	28
Labia Vag.,.....	1	Ague,.....	6
Bleeding from Lungs,....	5	Wounds,.....	19
Psoriasis,.....	1	Do. of Chest,.....	3
Tape Worm,.....	2	Do. do., Fistulous,...	1
Exostosis of Fingers,.....	1	Do. of Scrotum,.....	1
Threatened Apoplexy,....	2	Pleurisy,.....	7
Sprains,.....	2	Consumption,.....	12

Total, 733; exclusive of cases occurring during the Issue of *Præ-* sents; and the usual run of "Castor Oil" and "Black Draught" cases.

DANL. DARLING, L.M.,  
Surgeon, Indian Department.

Manatouawning, 31st December, 1842.

### REMARKS.

Toothache.—Creosote generally affords temporary relief, but the majority return for extraction. Acute Rheumatism is rare, but one of the cases was exquisitely marked. The chronic form is exceedingly common, and always benefited by stimulating remedies. Neuralgia, in various degrees of severity, is far from unfrequent here, often in its highest degree—Tic, almost always periodic; Arsenic more useful than Quinine. Abscess of Vagina occurred in an elderly White woman; sufferings were severe. Her mingled stupidity and modesty prevented an early discovery of their cause. A touch of the abscess lancet set all mo rights. Dropsy of the Head, and Spina Bifida, a half-breed child. Some relief obtained from a seton; case hopeless, and its death to be desired; it, however, still lives. Dropsy of Abdomen, a very rare disease among Indians, the subject an otherwise healthy woman. Complaint removed by the usual remedies, very much to the surprise of herself and friends, who were puzzled to know where the water went to. Ague.—Five of these cases occurred in Indiana at various periods after their return from Detroit. They were all speedily cured by Quinine, &c., (of which they have a very high opinion,) aided by the purity of the air of the Island, where no miasm can exist productive of ague, though there is certainly some peculiarity in its atmosphere to which I am inclined to attribute the number of Neuralgic cases. The sixth case of ague was the servant of the Commissarial Officer, of great severity; cold stage lasted three hours. Contrasted the disease at Amherstburgh some years ago. Bled in the cold stage, took Quinine and Solut. Arsenicalis combined. Had no return for twelve days, when he left the Island. Wound of Chest.—Fistulous, the result of a stab in a drunken fray, received five months ago. Under the right shoulder-blade is a wound capable of admitting the little finger, and constantly discharging a large quantity of healthy-looking matter, but no air. The wound was inflicted by a large butcher's knife; an immense gush of blood took place on the instant, he fainted, and continued alternately fainting and was wound pouring forth blood for three days, when it ceased. When seen, he was suffering from hectic fever. He was supplied with good food, and every thing done the nature of the case suggested. At the end of two weeks (when he left the Island, being only a visiting Indian), confident hopes were entertained of his restora-



tion to health. Hypochondriasis.—A White woman, appears to have been caused by the shock she received from a friend of hers, in an adjoining house, committing suicide under appalling circumstances. Sent to her friends for change of scene, &c. Diseased Joints.—Almost always treated by rest, starched bandage, caustic issues, and a firm roller, and some preparation of Iodine internally. Retention of Urine.—Nothing tickles the fancy of both patient and spectator more than the introduction of the catheter. The sight, however, of a large-sized one rather alarms. Hooping Cough.—No note of these cases, as they are generally mild, seldom requiring more than an occasional emetic, and a flannel shirt, if it can be obtained. Neither has the number of deaths been given, as it is impossible to procure a correct one; to give those, therefore, of which I have cognizance, would cause such a ridiculous disproportion between the number of cases of disease and the number of deaths, as to lead to the conclusion, either that the practice adopted was unusually successful, or the cases either not what they are denominated, or uncommonly slight in degree. "I suppose you find very little disease amongst the Indian tribes?" is a question which has been put to me over and over again by highly intelligent men, who appear, oddly enough, to suppose that the absence of every thing which they themselves consider as absolutely necessary to existence—shelter, comfortable clothing, proper and sufficient food, &c.—must ensure to the Indian an immunity from disease and death. From that cause, very few of the human race die of mere old age. Common politeness, or the fear of a broken head, prevent your doubting the sanity of the inquirer, and few men would feel it their duty to suggest to his friends the propriety of a Commission de Lunatics Inquendo. It is better to assume a moralizing strain, to recall to his recollection that man is born to die, as the sparks fly upward; to point out that in a body of five or six thousand Indians assembled, very, very few old persons are to be seen; to take him to the Indian lodges, in almost every one of which some one has a complaint begun, continuing, or nearly ending, (as is the case in the dwelling of almost every White family in the land,) and to assure him that, before nightfall, you will have ample opportunity of proving that a dead Indian is not nearly as great a rarity as a dead ass is in Europe.

This Return cannot be more appropriately closed than by the following extract from a lately published work:—

"Another source of error is the reputed absence of indigence and disease in savage tribes. But a brief examination will show that this absence is more apparent than real, and that uniformity has been mistaken for perfection. It is generally agreed that indigence consists in the want of some things absolutely necessary for existence. Such a state cannot exist in barbarous life. The savage either lives or dies; he is never precisely rich, or poor: whilst the means of subsistence are afforded, he exists from hand to mouth; when they fail, there is no one from whom he can beg or borrow, and few whom he can plunder. With him destitution is death. It is true he can support hunger, thirst, pain, to a degree we cannot approach; that he can feed on substances from which we shrink with horror. But there are limits to his powers of endurance. When these are passed, he sinks unnoticed and unknown. There is no one to record that a unit has been subtracted from the amount of human existence. The uniformity which travellers and voyagers have discovered in savage life, is a condition but one degree higher than actual starvation. Those who sink below it, disappear instantaneously, and are as if they had never been. For a similar reason, severe diseases are rarely seen by casual visitors of savage tribes. Death is their doctor, and the grave their hospital. Those who have resided among them, testify that diseases are produced by the privations endured at one period, and the repletion in which they indulge when a period of plenty arrives. But unless the cure is rapid, the termination of the disease must be fatal. When patients are left entirely to Nature, it is found that Nature presses very hard for an immediate payment of her debt."

Although the Indians, being without the advantages of science to guide them in their choice of remedies, and treatment of diseases, derive their principles from mere experience, it is certain, that we are indebted to their *Materia Medica* for many valuable articles of a vegetable kind; it is as certain that they are frequently successful in their adaptation of these to complaints of a formidable

character. One of the remedies in great use amongst them is the *Geranium Maculatum*, which many eminent physicians of the United States rank as one of the most powerful vegetable astringents, being principally composed of *tannin* and *gallic acid*. In the second stage of dysentery and diarrhoea, after evacuants; in hemorrhages of the alimentary canal; and as a styptic in external bleedings, it rarely fails of giving relief. Its dose is from gr. x. to 3ss. of the powder, or 3ss. to 3j. of a decoction made with Rad. Geranii, 3j, Aquæ ferventis lb. ss. With the Indians it is a favourite external styptic, the dried root being powdered and placed on the mouth of the bleeding vessel. It is also much used by them as a wash in Leucorrhœa. Internally, in doses of half a teaspoonful in cold water, they consider it very efficacious in hæmoptysis, and in this opinion, they are fully sustained by Thacker, Meade, Bigelow, and others.

The *Xanthoxylum Fraxineum*, or Prickly Ash, is one of the most valuable remedies of the Indians for the cure of rheumatism. It is said to resemble guaiacum in its properties, and is much used by the Americans as a remedy in chronic rheumatic complaints, and particularly in cases of a syphilitic taint. Bigelow says he gave the bark of this shrub in doses of ten and twenty grains with great advantage.

An excellent tonic is the *Xanthoriza Apifolia*, its composition being principally *resin* and *gum*, and the taste intensely bitter. The dose is ʒij. of the powdered root. The Indians administer it as a diuretic in dropsy, and also use a cold watery infusion for sore eyes.

A favourite and well known remedy with the Aborigines is the *Eupatorium Perfoliatum*, having the familiar names in the United States, of Boneset, Crowswort, Thoroughwort, &c. Its taste is intensely bitter, with a slight astringency, but no acrimony, and its operation is tonic, sudorific, cathartic: according to the mode of its exhibition. It is given in cold infusion in intermittents, continued fevers, and inflammatory diseases, to produce vomiting and catharsis in hot infusion, and as a tonic in substance. In the United States Pharmacopœia, there is an official formula *Infusum Eupatorii*. The natives administer it with good effect in fever, and as a common drink in acute rheumatism, pouring a quart of boiling water on two drachms of the leaves, and drinking about three ounces three times in the day.

The *Cornus Florida*, Dog wood, is said to differ little in its chemical composition from the Peruvian Bark, and Dr. John Walker states, that of all the indigenous tonics, this is the most beneficial in intermittents. Thirty-five grains of Dog Wood Bark are said to be equal to thirty grains of cinchona. The Indians use a decoction of small branches and buds, in want of appetite, and debility of the stomach. It is valued also as a poultice to correct ill-conditioned sores.

The *Polygala Senega* is too well known to need description. It is much used by the Indians, who give it in cold infusion during the remission of fevers, attended with great prostration of strength, and in diseases of the pulmonary organs. They also esteem it highly in female complaints, and in this agree with Dr. Chapman, who considers it the most efficacious emmenagogue, and useful in all forms of amenorrhœa.

It is not a little remarkable, that among all the Indian tribes known to Europeans, the production of increased perspiration constitutes one of their principal remedies. A favourite and universal mode of procuring this is, the use of the vapour bath, and the construction of this is similar throughout the different nations of the North West. Mr. Cormack, in his account of his expedition to discover the aborigines of Newfoundland, or Red Indians, says, that he discovered, in a deserted village, the remains of a vapour bath. The method used to raise the steam was by pouring water on large stones made very hot. Over these a hemispherical frame-work, closely covered with skins, was placed to exclude the external air. The patient then crept in under the skins, with a birch rind bucket of water, and a small bark dish to pour the water on the stones, and thus enable him to produce the steam at pleasure. He remains as long as the heated rocks retain heat sufficient to raise the vapor, when he retires, wrapped in a robe or blanket, and goes to bed. The bath is principally used in rheumatism, dropsy, and the cold stage of fever. Warm sudorific infusions are taken in the bath, and the debility induced is sometimes so great that the patient faints, which, however, followed by proper treatment, generally has a beneficial effect.

I have said that the Indian is guided by experience in his treatment of disease. For example, when suffering from acidity of the stomach, he takes some of the absorbent earths that are found on the banks of the rivers. Bleeding in their inflammatory diseases is also much used. But the simple native of the forest does not employ the former from any knowledge he possesses of the principles of chemistry, nor the latter from any acquaintance with the laws of physiology. We, on the contrary, when a few grains of soda are taken to effect the same object, shew our learning, and sometimes our pedantry, by explaining that, as the soda contains an alkaline principle, the acidity of the stomach is neutralized by its administration, and a purgative salt being formed, in some measure, by the combination, the double purpose is thus effected of a corrective and an aperient; whilst the bleeding lessens the momentum of the circulation, and checks inflammatory action. Still the results are the same. The uncivilized man gropes his way in the dark, and though we are led by the light of the lamp of science, each attains his object by the same means. Their re-

medies must necessarily be simple in ordinary cases, consisting chiefly of warm infusions, powdered barks, roots, and leaves. A modern writer states, that in their febrile diseases, they make the state of the skin and bowels the guide by which to regulate their practice. When the skin is moist for a considerable time, and the thirst ceases, they say there is no danger. When the evacuations from the bowels become less offensive, and change their colour, the tongue becoming clean, they stop purging and diaphoresis. If there is great debility, they commence giving tonics, which are commonly bitters. Should these induce costiveness or a return of the fever, evacuations are again had recourse to. There is something so rational, and yet so simple, in all this, that I hardly think we should find anything to improve upon it in Sydenham, or Cullen; and, as the great Boerhaave tells us, that "simplicity is the seal of truth," probably here is as much practical, unsophisticated truth, as will be found in the elaborate treatises of ancient and modern professors.

That they are acquainted with the mode of relieving inward pains by treatment similar to the moxa, is seen by their burning a piece of touch-wood over the pained part, and suffering it to produce a blister. They are also aware of the advantage of relaxing the muscles in dislocations, for in cases where they do not succeed readily, they nauseate the patient to a most distressing degree, and then find very little difficulty in reducing the luxation. Tumors and abscesses are allowed to suppurate, generally, without any application to them. When much inflamed and painful, plasters of bruised herbs, or warm fomenting poultices are used. If matter forms, they make an incision for its escape, and continue the poultices to promote the discharge.

The subject of Indian diseases, and remedies, affords much matter interesting to the philosophical inquirer, particularly as to their mode of treating the more formidable complaints of Dropsy, Rheumatism, Syphilis, Pulmonary Consumption, and Asthma, in which they are sometimes very successful.

The space I have now occupied warns me to conclude for the present, but having received, through the kind attention of Mr. Vardon, chief clerk in the Indian Department, a copy of the Sick Report of the Indians, for the year 1844, I hope to make it the subject of a future communication, with some observations on the diseases abovementioned.

Montreal, December 29, 1845.

#### OBSERVATIONS ON SMALL-POX IN THE RURAL DISTRICTS OF CANADA EAST.

By A. VON IFFLAND, M.D.

One of the most destructive scourges in human so-

ciety, the *Small-Pox*, and against the infection of which, the experience of nearly half a century, throughout almost every corner of the inhabited world, has served to establish *vaccination*, as a security\* and which, it had been calculated, the course of a few years would altogether annihilate, has, within two years (and particularly the present one), exerted its direful influence in several sections of Lower Canada, and been attended with the most calamitous consequences and destruction of human existence.

About thirty years since, large grants of money were provided by the Provincial Legislature, for the promulgation and extension of Vaccination throughout the Lower Province, but the hurried and imperfect manner in which its operation was effected, and the instructions of the Board (appointed to carry the provisions of the law into effect) executed, in several parishes, leave the inhabitants much room to doubt the efficient security to the vaccinated, against variolous infection, for hundreds of grown and aged persons have lately been attacked with the Small-Pox, which, in many cases, proved fatal from its confluent nature.

For several years back, Vaccination has also been intrusted to illiterate persons, totally ignorant of its characteristics, either by experience or from the description of others; and, I may also add, that several medical men have been extremely inattentive to those numerous constitutional and local peculiarities which weaken its preventive power and security against the existing disease. There are, however, several respectable practitioners who assert, that many who have been vaccinated, and who then appeared to have gone through all the characteristic stages of the Vaccina, have, some years subsequently, taken the Small-Pox. To these exceptions to the preventive power of the Vaccine disease, and *they are too many not to influence the minds of some with terror and annoyance, are we now unhappily indebted for the renewal of the Small-Pox-inoculation, the tendency of which has been, not only to spread and multiply the disease, but to afford a constant source of infection.*

The question (and it is a very important one) with several medical gentlemen, respectable from their long standing and experience, is, whether the

\* We take occasion to differ from our Correspondent on the value to be attached to the act of vaccination. We think that it is commonly a modifier of the type of a subsequent attack of Small-Pox, by no means a preventative. As to the propriety of some Legislative interference in preventing inoculation, we heartily concur with Dr. Von Iffland. We have seen the most disastrous consequences attend the practice, putting entirely out of the question the fact that each inoculated case becomes itself, afterwards, the source of new infection. By a late Legislative enactment in Great Britain, a fine and imprisonment are the legal reward of every one who practises inoculation, and we have read of this penalty having been carried into effect in at least two instances.—*End.*

mode of transferring *independently* the lymph from one patient to another, does not induce some diminution in its specific properties, with a variation in the specific characters of the disease engendered by its use from the genuine type; and, from the facts already before them, they entertain the opinion, that the Vaccina should be repeated after a certain number of years. They are also strengthened in this opinion, from the important consideration, that, in several rural sections of the Province, the lymph communicated from one system to another, traces its origin to its first introduction among them, and which is no less than thirty years back!

My long experience has not failed to introduce to my observation many failures in the security of Vaccina against Small-Pox, and under circumstances which, at the time, produced such doubts upon my mind as were not dissimilar from those now entertained by my medical friends, but they were soon removed upon more mature consideration. It cannot be denied, that the lymph, though originally possessing the specific virus, may suffer a decomposition, either from putrefaction, or some less obvious cause, and produce a *spurious disease*, which, although bearing, in some instances, a striking resemblance to the genuine, may be detected by a very attentive and experienced Vaccinator. The failure as a preventative of Vaccina may also be ascribed to unknown peculiarities of the constitution, to intervening disorders, independent of the Vaccina, and to inflammation excited by accidental causes in very young children, ill-fed and ill-nursed.

We are also well informed of the multitude of instances in which means have been employed to communicate the Small-Pox to those who have been known to go through regular vaccination, and in which neither repeated inoculations, nor exposure to the disease in its most malignant type, have been able to produce any effect.

The means of ascertaining constitutional pervasion, in cases of Vaccine inoculation, have been practised, with, it is said, the most satisfactory results, for upwards of forty years, by several Vaccinators. It is to Mr. Bryce, a Surgeon of Edinburgh, that we are indebted for practical observations on this test. I cannot, however, but place in doubt its decisive criterion, on the ground that constitutional affection is often present in the spurious Cow-Pox: and this doubt, I am persuaded, cannot but be also entertained by others, although long experience and observation may have taught us to distinguish the external characters of the genuine, from the spurious pustules.

The test here proposed, is founded on the known fact, respecting Small-Pox; viz., that if a person be

inoculated with variolous matter, and the operation be repeated every day till the fever induced by the first insertion supervene, all the other punctures will advance with increasing rapidity: so that the puncture which has been made only twenty-four hours, will, at this period, equal in magnitude the original one, made eight days before. This idea, Mr. Bryce applied to the Vaccine disease; and he found that if a second vaccine inoculation was performed as late as the fifth or sixth day, it was so much accelerated in its progress, as to have the areola formed within a few hours after the first, increasing with its increase, and fading as it faded. This second inoculation is found to run a parallel course with the first, whether there be general fever or not; and this is undoubtedly the case in which a criterion for determining the constitutional affection is most wanted. The most proper time for performing the second inoculation, is about the end of the fifth, or beginning of the sixth day, from the first inoculation. If it be delayed beyond the sixth day, the affection produced by it will be very indistinct, and of short duration; and if performed at an earlier period, the contrast between the progress of the two infections, with regard to duration, will not be so great as may be thought necessary. If the second inoculation is not accelerated, but proceeds in the usual course, it proves that the first was not adequate to produce the constitutional pervasion, and, therefore, the 3d should be performed, as a counter-proof of the efficacy of the 2d.

It may not prove out of place here, (and particularly as it may revive an information, which, although of great importance, has been frequently neglected, if not lost sight of, by young practitioners,) were I to state, that in a Report of 449 out of 500 inoculated cases of Vaccina, many of the characteristics of the Cow-Pox were uniform, there being, first, the appearance of a small red pimple, in three to six days after inoculation; secondly, the gradual growth of it to the state of a circular or oval well-defined vesicle, by the ninth to the eleventh day, of from two-tenths to six-tenths of an inch in diameter, and often surrounded by an erythematous areola, and attended by pain of the axilla, or shoulder; thirdly, the gradual change of the vesicle into a black or dark-red, hard, glossy, prominent, round, firmly-adhering scab, by the fifteenth to the eighteenth day, which, in a week or ten days farther, falls off, leaving a cicatrix for life. This scab, which is not similar to that produced by any other affection, is a real *Anthrax*, or small carbuncle, from a part destroyed by the inflammation excited by the Vaccine virus. The red areola or erythema, is from the irritation of the dying or dead skin; and the cicatrix, is from the sloughing off of the dead part, leaving a cavity never afterwards entirely filled up.

We have also the following observations, as the results of extensive and varied experience, and they go far to controvert opinions often inculcated: That the difference in the effects of the Vaccine lymph inoculated, does not appear to depend on the presence, extent, or absence, of the red areola. And further, that though there be no febrile affection, provided the pock exhibit the distinctive characters of the Cow-Pock, *even without areola*, with the usual courses of the stages, the susceptibility to the Small-Pox will be as effectually destroyed, as if there had been considerable febrile affection, and extensive areola.

In submitting the above paper to the profession, we ought not to overlook the calamitous consequences now before us, from the inoculation with the Small-Pox, lamentably affording a constant source of infection throughout the rural sections, and thereby increasing the rapidity of its march. It is, however, a subject, which, from its bearing so intimate a relation with the preservation of the public health, and, as embracing in its extent, the whole of society, ought to fall within the province of Government, whose bounden duty is, at all times, to remove or diminish, through the most vigorous and effective means of its legislative authority, whatever evils result from the social state itself.

Could there, I would presume to inquire, be a greater anomaly in the codes of our Legislature, when, in its pages, we are instructed that thousands of pounds are annually expended for *preventing the introduction of contagious diseases* in the Province, when one of the most fearful and destructive to human existence is generating within, and is waging its influence, unchecked by the same legislative capabilities!

Yamaska, (near Sorel) 25th Dec., 1845.

\*.\* Since writing the above, a medical friend (a gentleman to whom I am indebted for some valuable information, and who has had the experience of upwards of twenty-five years in Vaccination) informs me, that, of late years, he discovered that in numerous cases which had borne the distinctive properties of genuine Cow-Pox throughout its regular stages, the pustules dried much sooner than formerly, and that the scab fell off at about fifteen days, and sometimes sooner, from the first insertion of the Vaccina.

These observations, corroborate in a great degree the comparative experiments of Mr. Viard, a French Physician, and member of the *Academie des Sciences*, that it is not, as is generally supposed, in the degree of developement of the Vaccine pustules on the eighth or ninth day we must look for the degenerescence of the Vaccine matter, but in the progress, and more especially in the duration of the eruption, which diminishes progressively. In 1836, the

Vaccine of Jenner, after nine-and-thirty years' sojourn in the economy of man, gave rise to pustules which, on the twelfth day, were perfectly dried; whereas pustules originating from Vaccine matter taken from the cow that year, dried only on the seventeenth day. At present, the Vaccine of 1836 dries on the thirteenth or fourteenth day; whereas that recently taken from the cow (1844), only dries on the seventeenth. Thus, in sojourning eight years in man, the Vaccine of 1836 has decreased in its power of keeping up the eruption. Mr. V. concludes that Vaccine matter should be procured fresh from the cow every five or six years.

#### CASE OF HYDROCEPHALOCLE.

By HORATIO YATES, M. D., Kingston.

(For the *British American Journal Medical & Physical Science*.)

Mary Collins, of this town, a strong, healthy woman, a mechanic's wife, aged 30 years, was delivered early on the morning of the 16th November, 1845, of a full sized, healthy male child. It was her third confinement. By the second, she had twin sons. This was a footling presentation, and the labour lasted five hours.

Over the occipital bone of the infant, a little to the left side of the median line, and upon the margin of the lamdoidal suture, was a tumour as large as the infant's head itself, attached by a neck of one and a quarter inches in diameter. The whole of the tumour was covered with hairy integument, excepting a surface as large as a crown piece, at its most depending part, which was pellucid and membranous. The tumour was fluctuating, and evidently contained fluid. Manipulation further showed that the connection with the encephalon, through the suture, was limited.

Nine hours after birth, an incision was made into the membranous portion of the tumour, and five or six ounces of clear yellow serum flowed out, when an opaque membrane, forming a complete septum in the tumour, was discovered. This septum was then incised, and twelve or fifteen ounces more, of similar fluid, were discharged, making, in the whole, 20 ounces of serum.

The attachment was then examined from within the opening, and two vascular tumours presented; one on either side of the septum; the first as large as a filbert, the other, half the size. These in texture precisely resembled the choroid plexus.

The mass of integument which had enclosed the tumour was then excised at its attachment, where it was found much thickened and strengthened. A minute artery was tied; so also were the vascular tumours. Two fine sutures brought the cut edges of the wound together, and a piece of dry lint and a slight compress were applied over.

About an ounce and a half of blood was lost during

the operation, which affected the child considerably; but it very soon rallied. On the third day after the operation, the child had slight convulsions and expired. Assimilation appeared to have been entirely suspended since its birth, although the wound was healing kindly. The child's death may be attributed, in a great measure, to its having been deprived of proper nutriment, its mother having no milk for it. This was the more unfortunate, as the child was thereby deprived of its greatest chance of recovery from the very considerable shock of the operation, and the loss of blood.

It is supposed that there were originally two distinct herniæ of the dura mater, with its lining serous (arachnoid) membrane. The ultimate magnitude of the tumour, may, doubtless, be truly accounted for by the fact, that from the common resistance or pressure of the calvarium being absent at the site of the herniæ, the accumulation took place. The serum which is contained in every healthy arachnoid cavity, was, in this case, constantly being lodged in the sac. No limit to this accumulation existing, it had quietly gone on for months, until the period of utero-gestation had terminated, when from the change in the external relations of the infant, the necessity of surgical interference became evident.

As the sacs enlarged, their two proximate walls were united by cellular tissue, to form the septum of the common tumour, above mentioned. Therefore the ser-tum was composed of two layers of dura mater, lined, of course, on both sides, by the arachnoid membrane. The scalp covering the whole in common, was dragged down with it, as in other tumours. To account for the absence of the integument and dura mater on that part of the tumour described as pellucid, it is clear that both had been absorbed, and that the serous lining membrane was the only covering left to that portion of the mass.

The vascular tumours were doubtless composed of pia mater, which had pressed through the openings, on account of there being no support from without, to balance the internal tension. Their vessels then becoming hypertrophied, the choroid looking bodies were the result. They were not attached to the margins of the foramina, but were connected from within only, leaving a free channel on every side, for the passage of serum towards the tumour.

The child had a lively eye, and an intelligent expression, generally; and was not constitutionally affected at all, as the subjects of spina bifida and chronic hydrocephalus often are. The disease under consideration, partook of the nature of both. It differed from true spina bifida only in its location, and, in fact, it may be as properly called *spina bifida cranii*, as *hydrocephalocele* or *chronic hydrocephalus*. The former, I take it, signifies some deficiency of the osseous wall; the collection of serum being the natural result of that deficiency.

cy. Yet the latter synonyma are applied with perfect propriety to the case which has been here attempted to be described. Hydrocephalus of the arachnoid cavity, is, however, a very rare variety. This is an example of that variety.

It is a matter of regret, that a post-mortem examination of the head was not had, but the child died in the night, and was buried on the following morning, before an opportunity was afforded of seeing it, which misfortune leaves any internal anomalous appearance a matter of conjecture. But from all the circumstances it is imagined that there was no change or alteration in the encephalon, save the herniæ of the meninges of the brain.

That chronic hydrocephalus, situated *exteriorly* to the encephalon is an unusual form of disease, no one will gainsay; but that this unusual condition should obtain in hydrocephalus of the *arachnoid cavity*, is exceedingly rare. Indeed, the writer does not remember to have heard or read of another such case.

In the *London and Edinburgh Journal of Medical Science*, for May, 1842, the following is recorded:—"The patient was a boy eleven days old. There were two tumours, each as large as a nut, situated, one on either side of the bridge of the nose. They were discovered the day after birth, and were then the size of a pea. By pressing the fingers upon the tumours, their contents appeared to retire into the cavity. They were punctured, and a drachm or two of limpid serum was discharged. On the eighth day after the operation, the child died. Upon examination after death, the anterior cornua of the lateral ventricles were found to extend into, and communicate with, the cysts." Here was a case of hydrocephalus of the lateral ventricles.

A translation of a very curious case of a man æt. 26 years, from *Rust's Magazin für die Gesamte Heilkunde*, a German Medical periodical, was published in the *Lancet*, April 22, 1836. It is stated that at his birth, his head was soft and pulpy, and unusually large, and that in his third year, the fontanelles were not yet closed. His growth was slow, and he was longer in learning to walk and speak than children generally are. Yet he was precocious in his intellect, and at the age of four years, possessed a quick perception and sound understanding. As he grew older, the disproportion betwixt his head and the rest of his body became more and more marked. At the time when the case was made out, there existed a depression at the posterior fontanelle, large and deep enough to admit the larger half of a hen's egg; which, when placed in the cavity, might be observed to rise and fall synchronously with the expirations and inspirations. The whole of the right side of the face was misshapen in all its parts, and much lar-

ger than the left, which was quite natural in shape. The cheek resembled a fleshy bag distended with water; and if pressed upon, the hole in the upper and back part of the head would be instantly filled up, and the egg thrown out! The external angular process of the *os frontis* was deficient to an extent which would admit a goose quill. A similar opening existed in the mastoid process of the *temporal bone* of the same side. Still more striking was the defect of formation in the inferior *maxillary bone*. It was divided into three parts, which were held in apposition only by the muscles of the face and neck.

Space will not admit of more than a short abstract, which has been here made of the cases published in the works above mentioned. Indeed, more room has now been already taken up than was intended. For further details of them, the works themselves are referred to.

Kingston, Dec. 10, 1845.

We have to return our thanks to Mr. Justice M'Cord for the two valuable Tables of Temperature and Atmospheric Pressure for the city of Quebec, with which he has favoured our Journal. We believe there are few private gentlemen in Canada, who have devoted themselves more to meteorological pursuits than Mr. M'Cord; and being sensible that he has contributed but a small portion of the valuable information which he has collected on this subject, we would fain consider his present contribution, and his former one, as earnest of future favours, and of his sincere wish for the prosperity of this periodical. To the Rev. Mr. Leach, Dr. Rae, and Mr. DeRotterdam, our thanks are also due for their valuable papers, hoping that their labours will be again resumed in our favour, and prove the means of enlisting other collaborators in our physical department.

# METEOROLOGICAL OBSERVATIONS ON THE BAROMETRIC RANGE AND MAXIMUM AND MINIMUM ATMOSPHERIC PRESSURE FOR QUEBEC CITY

To the Editor of the *British American Journal*.

MY DEAR SIR,—In the May number of your Journal, I took occasion to publish, compiled from the MS. Journal of the late Rev. Dr. Sparks, a table deducing from Thermometric Observations, carried with great care over a period of ten years, the mean temperature for the city of Quebec. I at the time promised to furnish you with other abstracts which I have made from the same tables, and in pursuance of that promise I send you the following, which will be found to furnish the monthly maximum and minimum atmospheric pressures as indicated by the Barometer, for the same years. The results obtained shew the maximum pressure, indicated by the greatest height of the barometer, to be 30.80 inches, and the minimum to be 20.30 inches, giving us a range, for the ten years over which these observations extended, of 2 inches. This maximum pressure was noted only once on 28th April, 1813. The minimum was observed on several occasions. I have the honor to be yours,

Montreal, January 8, 1846.

J. S. M'CORD.

TABLE of the Maximum and Minimum Pressure and Range of Barometer at Quebec, Lat. 46° 49' N., Long. 71° 16' W., for 10 years, compiled from MS. Journal of the late Dr. Sparks.

	1809.			1810.			1811.			1812.			1813.			1814.		
	Max.	Min.	Range	Max.	Min.	Range	Max.	Min.	Range	Max.	Min.	Range	Max.	Min.	Range	Max.	Min.	Range
January, .....	30.200	29.000	1.20	30.200	29.200	1.00	30.40	29.35	1.05	30.20	29.10	1.10	30.10	29.10	1.00	30.10	29.10	1.00
February, .....	30.300	28.800	1.50	29.900	29.200	.70	30.00	29.10	.90	30.20	29.00	1.20	30.30	29.00	1.30	30.30	28.70	1.60
March, .....	30.200	29.000	1.20	29.900	29.200	.70	30.35	29.10	1.25	30.10	29.40	.70	30.20	29.30	.90	30.10	29.00	1.10
April, .....	30.100	29.100	1.00	30.10	29.30	.80	30.00	29.20	.80	30.10	29.20	.90	30.80	29.10	1.70	30.10	29.00	1.10
May, .....	29.700	29.100	.60	29.90	29.20	.70	30.00	29.30	.70	30.00	29.40	.60	30.00	29.30	.70	30.00	29.20	.80
June, .....	29.900	29.300	.60	29.90	29.40	.50	29.90	29.25	.65	29.70	29.20	.50	30.00	29.40	.60	30.00	29.40	.60
July, .....	29.800	29.300	.50	29.80	29.30	.50	29.90	29.30	.60	29.80	29.20	.60	29.90	29.10	.80	29.80	29.20	.60
August, .....	29.900	29.300	.60	29.90	29.20	.70	29.95	29.40	.55	29.80	29.30	.50	29.90	29.20	.70	30.00	29.35	.65
Sept'r., .....	29.900	29.200	.70	30.00	29.30	.70	29.90	29.25	.65	30.00	29.30	.70	30.00	29.25	.75	29.90	29.20	.70
October, .....	30.100	29.050	1.05	30.10	29.10	1.00	30.20	29.00	1.20	30.00	29.00	1.00	30.00	29.10	.90	30.00	29.10	.90
November, .....	30.200	29.200	1.00	30.10	29.05	1.05	30.30	29.20	1.10	30.30	29.00	1.30	30.10	29.30	.80	30.25	29.20	1.05
December, .....	30.400	29.200	1.20	30.20	29.10	1.10	30.00	28.80	1.40	30.10	29.00	1.10	30.20	29.20	1.00	30.20	29.20	1.00
	11.15			9.85			10.85			10.20			11.15			11.10		
Mean Mon. Range	.93			.82			.90			.85			.93			.92		
Max. of Month, .....	30.40			30.20			30.40			31.30			30.80			30.30		
Min. of Month, .....	28.80			29.05			28.80			29.00			29.00			28.70		
Range of Month, .....	1.60			1.15			1.60			1.30			1.80			1.60		

	1815.			1816.			1817.			1818.			RESULT.				
	Max.	Min.	Range	Max	Min.	Range	Max.	Min.	Range	Max.	Min.	Range		Max.	Min.	Range	Mean
January, .....	30.20	29.20	1.00	30.30	29.10	1.20	30.20	29.20	1.00	30.20	29.20	1.00	1809, .....	30.40	28.80	1.60	.93
February, .....	30.30	29.40	.90	30.20	29.00	1.20	30.20	29.20	1.00	30.20	29.20	1.00	1810, .....	30.20	29.05	1.15	.92
March, .....	30.30	29.10	1.20	30.10	29.10	1.00	30.30	29.50	.80	30.40	29.30	1.10	1811, .....	30.40	28.80	1.60	.90
April, .....	30.10	29.20	.90	30.00	29.20	.80	30.10	29.20	.90	29.90	29.90	.90	1812, .....	30.30	29.00	1.30	.85
May, .....	29.85	29.40	.45	29.90	29.10	.80	30.10	29.30	.80	29.90	28.80	1.10	1813, .....	30.80	29.00	1.80	.93
June, .....	29.70	29.30	.40	30.10	29.10	1.00	30.00	29.20	.80	29.90	29.30	.60	1814, .....	30.30	28.70	1.60	.92
July, .....	29.90	29.30	.60	29.90	29.10	.80	30.00	29.20	.80	29.80	29.30	.50	1815, .....	30.30	29.10	1.20	.795
August, .....	29.80	29.30	.50	30.05	29.15	.90	29.90	29.40	.50	29.90	29.40	.50	1816, .....	30.30	29.00	1.30	.91
September, ...	30.10	29.30	.80	30.30	29.40	.90	30.10	29.20	.90	30.00	29.20	.80	1817, .....	30.30	29.00	1.30	.875
October, .....	30.00	29.30	.70	30.00	29.30	.70	30.20	29.10	1.10	30.10	29.40	1.10	1818, .....	30.40	28.80	1.60	.92
November, .....	30.20	29.30	.90	30.10	29.35	.75	30.00	29.30	.70	30.20	29.20	1.00					
December, ....	30.30	29.10	1.20	30.30	29.40	.90	30.20	29.00	1.20	30.30	28.80	1.50				1.445	
	9.55			...	...	10.95	...	...	10.50	...	...	11.10	Max. of the 10 years ... 30.80				
Mean MonthlyRange ...	.795			...	...	.91	...	...	.875	...	...	.92	Min. " " ... 28.80				
Max. of Month, .....	30.30	...	...	30.30	...	...	30.30	...	...	30.40	...	...	Range for the 10 yrs. ... 2.00 inches.				
Min. of Month, .....	29.10	...	...	29.00	...	...	29.00	...	...	28.80	...	...					
Range of Month, .....	1.20	...	...	1.30	...	...	1.30	...	...	1.60	...	...					

## FORENSIC MEDICINE.

## NEW TEST FOR BILE AND SUGAR.

By DR. M. PETTENKOFFER. (Ann. der Chem. and Pharm., Oct. 1844.)—This test is based upon the deep violet tint afforded by the addition of sulphuric acid and sugar to the bile, even when perfectly colorless. It is upon the choleic acid, (which forms the essential part of the bile,) that this reaction takes place. A little of the liquid suspected to contain the bile is poured into a test tube, and two thirds of its volume of sulphuric acid added by drops, so as not to allow the temperature of the mixture to exceed 144° Fahr.; as a higher temperature would decompose the choleic acid; then add from 2 to 5 drops of a solution of one part of sugar to four fifths of water and shake the mixture; if bile be present, the violet red color will appear in a shorter or longer space of time, according to the quantity present. The precautions necessary to succeed are, not to allow the temperature to exceed 144° Fahr.; not to add too much sugar; the sulphuric acid must be free from sulphurous acid. If albumen be present in the

suspected liquor, it is best to coagulate it previous to testing, with a little alcohol or heat. If the bile be in small quantity, it should be concentrated in a water bath, extracted with alcohol, and this last evaporated to a small bulk, and the test applied to the solution when cold; this is particularly to be attended to, when the urine and other secretions are the subjects of experiment. By means of this test, bile was detected in the urine of a patient suffering under pneumonia. The fæces of a healthy man when extracted with spirits and tested, did not show any indication of the presence of bile, whereas in adding a little bile previously to the fæces, the test did not fail to indicate it. In all cases of diarrhoea bile is found in the stools,—so after the administration of calomel and other purgatives. This test reversed, may be used for the detection of sugar, that is to say, a mixture of bile and sulphuric acid is first made, and the suspected liquid added; if sugar be present, the violet red color will appear. This is a ready way of testing diabetic urine.

To test the blood for bile, albumen is first separated by boiling with alcohol, and the concentrated solution tested as already mentioned.—*American Journal of Science and Art.*



## DEATH FROM ACONITE.—INQUEST.

In consequence of various rumours respecting the death of Dr. Male, an inquest was held at Birmingham, of which the following account presents some interest:

The first witness, John Barker, deposed that he had lived in the service of the deceased nearly eight years. On Wednesday, 23rd, he was out, and on Thursday about seven o'clock, witness took him up a cup of coffee, which he drank. He (witness) then went to the stable, and soon deceased came down, complaining of a pain between the bowels and chest; deceased had complained for some time past of pains in the back; he had some warm water taken up to him, and was sick two or three times; deceased asked him if he looked unwell, and witness replied he looked very unwell; in a short time, Miss Male, his daughter, came to him, about nine o'clock; on Friday the deceased sent for him; he appeared alarmingly ill, more so than he had ever seen him before; he said he wished to bid him (witness) farewell, and to evince his kindness and respect towards him; he seemed to consider himself in a dying state.

Mr. Russell, surgeon, of Newhall street, was next sworn, and said,—I have known the deceased for a number of years, he has complained to me occasionally, for six weeks or two months past, of pains in the back and loins; on Thursday morning, about half-past nine, his son, the Rev. Dr. Male, came for me, and on going to his father's house, I found the deceased in bed; his extremities were cold, the general surface of the skin cold and clammy, the pulse quick and feeble (at 130), with cramps and pains in his legs, and spasmodic pains in his stomach; he said his head was confused; he told me that, not experiencing relief, (alluding to the pains) from medicines in ordinary use, he had been taking tincture of aconite; he then asked me if I had ever given the medicine, and I said no; I then asked him what doses he had taken, and he replied on the preceding Sunday five drops, two or three times a day; I cannot be positive whether he said twice or thrice, but I believe he said two or three times a day, and had increased it to six, and ten drops; one dose of ten drops only had been taken on the previous night; he had been also suffering from diarrhoea for a few days, and had taken a dose of ten drops of solution of opium early that morning for it; I inquired where he had got his notion relative to the aconite; he said he had been reading a book now circulating through our societies treating upon the advantages of aconite in similar pains; he expressed his conviction that he should die, that the medicine was too powerful for him; but he also expressed his most earnest desire that he might recover, as his life was of the utmost importance to his children at this time; this he repeated during his illness, to myself and Dr. J. Johnstone: I cheered him as much as I could, reminding him of his former depression when ill, and that I thought he had nervous power sufficient to wear out the effect of the medicine he had taken; I gave him mild aperients to overcome the poison, with camphor and ammonia; his son-in-law, Mr. Amphlett, saw him along with me in the evening, and we left him somewhat, in our opinion, relieved; on Friday we again met, and towards evening with Dr. James Johnstone, as we found him more sunk, Dr. Johnstone agreed with us in our treatment, &c.; late that evening I found him in a dying state, gradually sinking; he was in a torpid state, from which, however, he could easily be roused, and then his intellects were clear; he had no paralysis; his death took place about ten o'clock on Saturday morning; he was perfectly composed, and took an affectionate leave of myself and others, reminding me

that for thirty-five years we had lived together in an uninterrupted friendship; twenty hours after death I made a post mortem examination, in the presence of Mr. Clayton, Dr. James Johnstone, and Dr. Bell Fletcher, and my son; his body, with the slightest possible exception, was in a healthy state; the blood was unusually fluid. Witness attributed death to the accumulated doses of the aconite depressing the nervous system.

In answer to some questions put by jurors,

Mr. Russell said, that such doses would not be likely to leave traces in a post-mortem examination beyond a fluidity in the blood. Had deceased been a younger man, in all probability he would have recovered from the shock of the medicine. Aconite is little used, and he was not prepared to say that ten drops would produce fatal effects.

The coroner then briefly alluded to the circumstances which had induced the family to request an inquiry into the melancholy event—an event which he, in common with the medical profession generally, most sincerely deplored. The deceased was respected and honoured in life, and his loss so calamitously brought about, would be extensively and deeply felt by more than one class of society.

The jury then gave in a verdict of “accidental death from an over dose of aconite taken medically by the deceased.”—*Provincial Journal*.

## CASE OF POISONING BY HYDROCYANIC ACID—RECOVERY.

By WILLIAM A. GUY, M.B., Cantab., Professor of Forensic Medicine, King's College, and Physician to King's College Hospital.

The following case of poisoning by hydrocyanic acid was for obvious reasons, not published at the time of its occurrence. It is now brought forward as, in many respects, an important addition to the cases which have recently been put on record. It is especially interesting as showing the interval of perfect consciousness and complete command of the voluntary muscles which may intervene between the swallowing of a large dose of prussic acid and the development of the characteristic effects of the poison, and it is a very striking example of a large class of cases of suicide in which the impulse to the commission of the act precedes the act itself by a very short interval, and springs up during a temporary excitement of the mind. The particulars of the case were noted down on the day following the attempt at suicide.

In the month of November, 1844, I was called up at night to see a young gentleman who had swallowed prussic acid. The particulars of the case, as detailed by himself and his relatives, are as follow:—He is the son of a medical man, is about nineteen years of age, and studying the law. His disposition is naturally cheerful; he has met with no disappointment, and never, until the present attempt, had contemplated suicide. His habits are temperate and industrious. On the afternoon of the day on which he swallowed the poison he dined in the Hall of one of the Inns of Court, and drank, according to his own account, half a bottle of wine—a quantity much exceeding that which he was in the habit of taking. On reaching home he was observed to be somewhat affected by liquor, and before going to bed went, under some pretence, into the surgery, from which he took a stoppered bottle containing, according to the estimate of his father and the apprentice, from one to two drachms of prussic acid of the pharmacopœial strength, but, according to his own statement, about a mouthful. Soon after he had gone to bed the family was startled by a noise in his room as of a heavy body falling, and a relative, who was passing at the time, was alarmed by a loud gurgling noise. His father was almost immediately on the spot, and seeing the bottle on the drawers, dashed several buckets of water over the face and chest of

his son. This roused him. He was then taken into an adjoining room and put to bed, the treatment consisting in holding ammonia to the nostrils, and applying heat to the spine and feet. An injection was also given, containing tincture of assafoetida.

When I reached the house I found him in the following state, in which he had continued without alteration for three hours:—He lay on his back, drawing in his breath with great effort, each inspiration being accompanied by a loud gasping sound, and a distinct mucous rale. The pulse was upwards of 140 in the minute, and the respiration 36. The surface of the body was very cold; the countenance was of a dull leaden hue; the lips blue; the pupil extremely dilated, and the jaws rigid, in which state they had remained for the whole period, so that it had been impossible to administer any antidote. The treatment from this time forward consisted in holding ammonia under the nostrils, assiduous frictions with the flesh-brush, and the application of heat to the surface by means of flannels, warmed at the fire, and constantly renewed. At the expiration of about five hours there was some effort to vomit, encouraged by tickling the throat, and some bloody mucus was wiped from the mouth. Soon afterwards he could be made to swallow, when some warm brandy and water and some strong coffee were given him. At this time, too, he could be made to answer in monosyllables, and could raise himself on his elbows. He was also perfectly sensible, but looked bewildered. At the end of about six hours he was sufficiently recovered to answer questions, move himself about, and call for lemonade, which he drank freely. The mucous rale had disappeared, the respiration and pulse were still frequent, the pupil was restored to nearly its usual size, and the skin was warm. Being disposed to be quiet, and seeming out of danger, he was left to himself. After a time he complained of fullness at the pit of the stomach, and asked for an emetic, which was given him, with the effect of bringing off his stomach a large quantity of undigested food.

I saw him about fourteen hours after taking the poison, and found him quite well, though weak. He gave the following distinct account of the attempt of the night before:—He was suddenly tempted, as he said, by the devil to take prussic acid, under a confused idea that it would not hurt him. He swallowed, according to his own account, a mouthful of the acid from the bottle in bed. He then got out of bed, walked round the foot of it to a chest of drawers standing within a few yards of his bed-side, placed the stopper so firmly in the bottle that it could not be removed, and then walked back to bed, intending to get in again. He reached the side of his bed, sat down upon it, and then lost all consciousness. During all this time he said that he had no giddiness, and no unpleasant sensation of any kind, no more than if he had taken so much water. He also assured me, and his manner made me quite confident that he spoke the truth, that the idea of suicide had never before entered his head. The father of the lad has since informed me that the fæces, and, as he believes, the urine too, were expelled as the first effect of the poison.

On examining the bottle which had contained the prussic acid, it was found quite empty, so that it was not possible to ascertain the strength of the preparation which the lad had taken. From the statement of the father and apprentice, that the bottle contained one or two drachms, and that of the lad himself, who affirmed that he had swallowed a mouthful, it is highly probable that the dose taken was such as to prove fatal had it not been for the prompt application of the cold affusion, the continued use of ammonia, and the assiduous application of warmth, to the surface. At the time that I first saw the patient, the remedies most strongly indicated, in addition to those already employed, were warmth and friction to the surface, of which the first had been already applied,

but to an insufficient extent. The extreme coldness of the surface rendered such treatment imperative, and the blueness of the skin of the hands and face, the labouring respiration, and the abundant collection of mucus in the air-passages, furnished an additional reason for its assiduous application. Friction and warmth to the surface are as strongly indicated, after the patient has been in some degree roused from the first effect of the poison, as the cold affusion at the onset.—*Medical Times.*

## SURGERY.

### ON THE TREATMENT OF FRACTURES WHICH USUALLY UNITE IN A DEFECTIVE MANNER.

By. M. GUERIN DE VAUNES, Anatomical Assistant of the Faculty of Medicine.

The author's principal aim in publishing these papers is to prove that, if certain fractures only unite by means of fibrous tissue, or by the formation of a more or less deformed callus, it is owing to a radical defect in their treatment. In fractures of the clavicle, which first engage his attention, most authors, from Hippocrates down, allow that the union is generally accompanied by some deformity, but he affirms that all writers to the present time have overlooked one of the most important indications of treatment. We need not follow M. Guerin through the lists of the different methods employed by surgeons at various periods, as these are sufficiently known to our readers; but many of his critical observations on this subject are worthy of being quoted, and naturally lead to the enunciation of his own views. "Hippocrates," he says, "in order to put the fragments of the clavicle in contact, had already advised a cushion to be applied between the shoulders, with a view of carrying outwards the external end of the clavicle. Paulus Ægineta, to attain this object, put under the armpit of the patient a pad of wool, which, according to Bichat, had carried art to its perfection; if employed to reduce the fragments, this process had been continued to maintain them; but Desault alone understood the mechanism of the displacement, and to fulfil the indications of this fracture, he made use of the humerus as a lever to push the shoulder backwards, upwards and outwards, in acting according to the natural direction of the bone.

"I partake the admiration of Bichat for the apparatus of Desault, which bears, says he, the stamp of true genius. I believe, nevertheless, that his bandage is insufficient; I wish it to be preserved entire, but with an addition to it, the nature of which will be presently better understood.

"If I admit that Desault has fulfilled the indications which consist in carrying the shoulder upwards, backwards, and outwards, to be consistent with what I have said, I must prove that there are others which have escaped him. That will not be difficult. Desault, in fact, like all the surgeons who have preceded and followed him, has only occupied himself with one thing, to put the external fragment in contact with the internal, and to maintain this apposition in acting on the arm or shoulder of the affected side. But nobody has thought of preventing the mobility of the internal fragment. Yet this is a fundamental principle in the treatment of these fractures, which has been overlooked. When the masters of art shew the point where the light ought to appear, all eyes remain fixed in that direction, till some one turns round and perceives a light on the opposite side. It is what has happened in the treatment of the fracture under consideration, for I read in the posthumous work of Desault: 'The power which carries downwards the top of the shoulder had appeared illusory to the ancient Greek physicians, who attributed the apparent

depression of this part to the elevation of the sternal fragment, and in this belief sought, by compressing it, to re-establish its lost level with the other. More judicious than those who went before him, Hippocrates demonstrated that their doctrine, false in its principles, was more dangerous in its consequences, and that the immoveable sternal fragment only lost its relative position with the humerus, because this was depressed by the weight of the arm, a doctrine evidently proved by the comparison of the sound shoulder with that of the affected side, which all practitioners have since admitted. The predecessors of Hippocrates attributed too much to the elevation of the sternal fragment, and the father of medicine deserves great credit for having shown the inefficacy, and even the danger, of compression applied on this fragment. But he led into error those who followed him, in sustaining that the inner fragment is immoveable. You will soon be convinced, if you repeat, on the dead subject, the following experiment, which I have performed several times.

“Break a collar bone by letting a dead body fall on the shoulder, then raise the arm of the opposite side; you will then see that the sternal fragment is not immoveable, and that it glides up and down on the outer fragment; if you carry back the arm of the sound side, the sternal fragment will glide on the other from behind forwards, whilst it will follow an opposite direction if you carry the arm forwards.

“This is not all; if you say to a man, having a fracture of the clavicle, and whose two arms hang down by the side of the body, to turn the head round to the healthy side, you will then see the internal fragment carried from below upwards, which is a consequence of the traction exercised on it by the sterno-cleido-mastoid muscle.

“These experiments prove, in an undeniable manner, that there is a connected action between the sound clavicle and the sternal fragment of the injured side; in the second place, that the riding of the fragments is not only on account of the external being drawn by the weight of the arm, but also to the raising of the sternal fragment which is drawn up by the sterno-cleido mastoid.

“I now speak of ordinary cases, in which the clavicle is broken transversely, and not of those rare cases in which the external fragment, fractured obliquely, at the expense of its inferior surface, is found placed above the inner fragment.

“In repeating these experiments several times, I am convinced that the mobility of the sternal fragment is in an inverse ratio to its length, that is to say, so much the less as the fracture has taken place further from the insertion of the cleido-mastoid muscle.

“This agreement existing between the healthy arm and the sternal fragment of the clavicle, I am bound to inquire if the different bandages and apparatus employed in the treatment of this fracture tend to maintain the inner fragment.”

“After having done so, M. Guerin asserts that he has not seen any apparatus which prevents this fragment being carried upwards, forwards, or backwards, according to the motions of the sound arm. If now remains for us to give, in the author's own words, a description of the means of securing a fractured clavicle in proper apposition, and to obviate the causes of displacement which he has pointed out. Like most persons who have hit on a novelty, perhaps he is disposed to invest it with more importance than it deserves, yet there can be no doubt but that his observations deserve attention for their truth and rationality, and his apparatus, cumbersome and disagreeable to the patient as it must be, may be found serviceable in cases of fractured clavicle, attended with considerable displacement of the broken ends of the bone.

“1st. The affected shoulder ought to be carried upwards, outwards, or backwards, as Desault has indicated, and, I

believe, there is not a better bandage for this object than that invented by that surgeon, provided it be rendered immoveable by dextrine or starch.

“2d. The thoracic extremity of the opposite side ought to be fixed to the chest, so as to prevent its movements. I know that the patient will thus find himself often embarrassed, not being able to eat without the aid of a nurse or friend, unable as he will be of raising himself, &c., he must always have near him a kind person charged to assist him in all his movements.

“A final indication yet remains to be accomplished; we must, in fact, oppose the contraction of the sterno-cleido-mastoid muscle. This end is attained in keeping the face of the patient turned on the side of the fracture, by means of starched bandages embracing the head and the affected shoulder, and thus putting the muscle in a state of relaxation. I do not conceal from myself the inconvenience of a mode of treatment like this, which, during a month, paralyzes all the motions of the upper part of the body; but many a woman of the world would submit to it willingly, in order to have a fracture united in a regular manner, and not deformed. Moreover, this bone, spongy, and penetrated by a grand number of vessels, has in itself a great disposition to produce callus, and it will be possible, at the end of some days, in which the fragments are kept in exact apposition, to permit the motions of the head without injury to the union.—*Archives Generales de Medicine*, March and June, 1845.—In *Dublin Journal of Medical Science*.

#### LIGATURE OF BOTH CAROTIDS.

Dr. Ellis, of the Grand Rapids, Michigan, relates, in the *New-York Journal of Medicine*, the case of a young man, on whom he ligatured both carotids with an interval of four days and a half between each operation. The patient, twenty-one years of age, was shot by a comrade, who mistook him for a bear; the ball struck him near the centre, and immediately above the spine of the scapula of the left side, passing out, after making a flesh wound of about two inches and a half, towards the neck, and after about the same space, it entered the neck over the centre and posterior edge of the sterno-cleido-mastoid muscle, passed up through the centre of the tongue, and out of it to the right of the median line, struck the lateral incisor, cuspid, and bicuspid of the right side, knocked them out, and the alveolar process, external to them; passed then through the upper lip, leaving a ragged opening through it. At the time there was little or no hemorrhage. During the night of the seventh day, secondary hemorrhage from the wound in the tongue occurred, but was readily subdued by compressing the left carotid and the orifices of the wound. The bleeding recurring the next night, Dr. Ellis applied a ligature to the left carotid. The patient then appeared to be doing well, until the eleventh day after the accident, when there was a return of the hemorrhage, which was arrested by compression of the right carotid. The loss of blood again occurring, it was decided, in consultation, that the lingual artery should be tied, or else the right carotid. The latter vessel was selected, as it was uncertain whether the hemorrhage was from the right lingual, or from the unligatured end of the left carotid, and also because there was considerable tumefaction under the angle of the jaw, so as to prevent the corner of the os hyoides being felt. The ligature of the right carotid did not cause any disagreeable feelings; there was not any fainting, no unpleasant sensations about the head; all the perceptible change was a slight paleness, and a cessation of pulsation in both temporal arteries, and of the hemorrhage. The pulse soon increased in frequency; but did not maintain itself at the high number (140) it first reached. Some difficulty of breathing afterwards came on, with a hacking cough, which was treated with acronite and belladonna. The ligature from the left carotid came away on the seventeenth day, and that from the right on the fourteenth from its application. The wound on the left side continued to discharge for several weeks, when the portion of the artery between the ligature and wound sloughed, and came away in three pieces at different times. The patient, at the date of the report, was in comfortable health, and attending to business. Dr. Ellis, in remarking on the case, says

there are several reasons which make the above case very interesting. It shows the comparative safety with which both carotids can be ligatured, so far as the brain is concerned, and the danger of pulmonary congestion. It shows with what rapidity the anastomosing branches of the opposite vessel supply blood enough to give rise to pulsation in the temporal artery, and of course the danger of hemorrhage from the unligatured end of the artery, where it is not possible to ligature both ends of the wounded vessel.

### ON THE OPERATION FOR HARE-LIP.

By M. PAUL DUBOIS.

*At what period should we operate?*—In the Academy of Medicine, on the 27th May, the distinguished Professor of Midwifery at the Hospital of the Cliniques, entered into an *extempore* detail of his views as to operating on very young children, and described the method which he prefers. M. Dubois first detailed the particulars of a considerable number of cases of infants operated on by himself or his friends, at intervals varying from a few minutes to several days or weeks after birth, and all of which had proved completely successful; he then proceeded to say:

The mode of operation which I adopt is that preferred by all surgeons of the present day. I pare the edges of the lips, and then unite the bleeding parts by a twisted suture. I make use of very fine pins called insect pins, and the ordinary waxed thread; I shall make but one remark with reference to the pins, viz., that those which I employ are exceedingly thin: the pins put at instrument makers are too long in proportion to their thickness; though the tissues to be pierced offer but slight resistance, that resistance is sufficient to make long and slender pins bend, which increases both the suffering and the length of the operation. It appears to me, then, much better to diminish considerably the ordinary length of the pins.

I have not had recourse to the proceeding advised by M. Clemot of Rochfort, and which my colleague, M. Roux, has sometimes employed, but for its acquaintance with which the medical public is solely indebted to M. Malgaigne. This proceeding, which has for its object to restore the median lobe of the upper lip, did not appear to me necessary in the cases which I have detailed to the Academy; and I was apprehensive also of complicating an operation, the success of which appears to me to depend on avoiding all important loss of blood, and in the simplicity and rapidity of its performance. In none of the cases which I have described, did I employ a uniting bandage in addition to the suture. In this particular I have followed the example of my father, who never used one, either with infants or with adults. Neither have I substituted for the bandage the means employed by M. Bonfils de Nancy, which consists in having a person to compress with his hands the cheeks of the little patient in a manner analogous to the uniting bandage. I think that M. Bonfils' precaution is unnecessary, and may even prove a source of annoyance and agitation to the child; whilst the uniting bandage is attended with the same inconveniences, with this additional one, that it is almost certain to be displaced by the movements provoked by its presence, and then it is more injurious than beneficial.

The pain produced by the operation was strongly expressed, that is to say, by energetic cries; it is but right to add, that the cries indicative of real suffering were notwithstanding not more violent than they often were when the child was suffering much less, or even influenced only by desire. You understand, Gentlemen, that I have no intention of disputing the reality or even the acuteness of the pain resulting from the operation in the case of very young children, such as I have brought before you; but I may be permitted to say, that in their case the physical suffering is not combined with what would be added by the intelligence of a riper age; it is therefore very probable that they have but the mere faint consciousness of suffering; and certain it is, that in my cases they did not retain the recollection or anticipation of it. This circumstance is not one of the least important of the advantages of operating early; and I shall by and-by allude to its value in reference to the after-treatment. On the other hand, I believe, I may say that the feeling of pain is very rapidly dissipated in very young children; in all, in fact, sleep quickly followed the operation; two fell asleep immediately after the insertion of the last pin, and before more than a single turn of thread was put round it; the rest of the dressing was completed whilst they were asleep, and they were carried from the operation table to their cradle without waking them.

In all the little patients the hæmorrhage, inseparable from the divisions of the tissues, was very slight; I will except one, however, in whom it produced a little paleness. In two of these infants the blood, despite my precautions, passed into the mouth, and was swallowed; a faint sign of deglutition informed me of its occurrence. One of these vomited the blood half an hour after the operation; in the case of the other it passed into the alimentary canal, and was rejected by stool the following day. Swallowing the blood was followed by none of the colics, or other accidents, which have been represented by some surgeons as likely to compromise the success of the operation. In all the cases the after treatment was very easy.

M. A. Berard—"Will M. Dubois have the goodness to mention the treatment to which he alludes?"

M. P. Dubois.—That is just what I am going to do. In all the infants I removed the first ligatures twenty, and more frequently twenty-four hours after the operation, and substituted in their place others less binding. This treatment was repeated every day, until the withdrawal of the pins, diminishing gradually the constriction. In these dressings I was assisted by a person who secured the head of the child, and gently compressed the cheeks when it began to cry. The dressing caused some to cry; but to get them to stop it was only necessary to wait a few minutes before continuing to unroll the threads. It was often completed without awaking the child, especially where the parent, in expectation of my arrival, had obeyed my injunction, previously, to moisten the threads with warm milk. This liquid was preferred; since, if it penetrated into the mouth, which was almost inevitable, it might be swallowed with impunity.

The upper pins were generally withdrawn after the sixty-second hour, and the lower after from eighty to ninety-six hours. The differences, in this respect, depended on the greater or less apparent firmness of union. The Academy will doubtless remark, that the removal of the pins did not take place earlier than in subjects of a more advanced age; but it will also see, that the gradual slackening of the ligatures lessens the inconvenience of leaving the pins in a long time; and, besides, their presence is a useful safeguard, in the absence of other means of keeping the parts in apposition.

Only in one case, after the removal of the pins, did I apply a narrow stripe of court plaster, and even that was removed in a few hours. I think its use was not called for. I employed it because, deviating from my usual practice, I had removed all the pins sixty-two hours after the operation. This was in the youngest of the patients that I presented to the Academy; it was operated on five days ago, and the pins were withdrawn within the last forty-eight hours.

In all the children union took place rapidly and firmly; in none were the tissues cut, either by the pins or ligatures; and I dwell on this circumstance, because it seems to me to remove an objection long ago started by a great number of surgeons, and brought forward again in our own day by Dupuytren, viz., that in very young infants the tissues have a softness which renders them too easily cut by the needles or the ligatures. This objection, advanced by men of such eminence, merits the more attention, as the premises are true, although the conclusion is false. It is indeed true, that the tissues of new born infants are soft in a remarkable degree; but this softness, as Buech has, with great justice, remarked, is due to their extreme vascularity; and the circumstance, far from having an unfavourable influence on the operation, is one of the conditions the most advantageous for prompt union. As to scabiility, it is quite imaginary, if supposed, as I believe it was, to be so great that the tissues would not bear without tearing the traction necessary to bring the cut surfaces into apposition; but it is real in so far as ulceration, rapidly produced by foreign bodies introduced into the tissues, is concerned; and this ulceration may be very much accelerated by the compression exercised by tight ligatures. Still the effects of this tendency may be easily diminished, or even totally obviated, by the rapidity with which adhesion is effected, allowing the ligatures to be changed after the lapse of twenty-four hours.

In none of my cases was the giving of nourishment suspended; all were supported by means requiring considerable efforts of suction; two by the bottle, and the rest by the breast as usual; one ceased to take the breast only during the operation and the sleep that followed it; the others were fed by the bottle and artificial nipple for the first day only. I am happy to have the opportunity of mentioning that, in the two cases in which my father practised this operation on children younger than any I have presented to

the Academy, the use of the breast was not at all interfered with. The Academy will permit me to delay for a moment on the result of these operations.

Of the difficulties which have been supposed inseparable from the operation practised on very young children, there are none which have excited more attention and alarm in the minds of surgeons than those which depend on the efforts of suction, instinctively provoked by the introduction into the mouth either of the natural or artificial nipple. I must also add, that even the partisans of the operation have admitted the reality of all these dangers. They first get rid of the difficulty by proscribing the operation; the second by extravagant caution, in permitting only a few drops of milk to be introduced into the child's mouth, or even compelling the little patient to fast for several days.

The facts which I have just detailed will prove, I hope, that the apprehensions entertained both by the adversaries and the partisans of the operation for hare-lip in very young children, are greatly exaggerated, and neither justify the objections of the one, nor the excessive caution of the other. Permit me also to add, that these very precautions are much more injurious than the dangers they were intended to obviate. I do not at all believe that a fast of two or three days can produce, as has been pretended, rapid marasmus, followed by yielding of the sutures, but I am confident that it is very hard to be borne by infants, and excites in their agitation and prolonged crying, as dangerous, in reference to the operation, as any effort of suction. Such was the case with those infants who were separated from their nurse for nearly an entire day, and when allowed again to take the nurse's breast, their tranquillity was restored. One of these was the eldest of the children brought before you.

One only, of the patients I exhibited to the Academy, cried violently and continuously for some days after the operation; I shall return to it in an instant; the others cried but little, and at long intervals. Sleep is the state which is almost habitual to infants during the first days of their existence. It is broken only to satisfy their wants, by suffering, or by desire. It has been evident that the operation, in those who underwent it, but little altered that happy state of things, which must tend to produce a favourable result. I have said that one only of these patients was an exception, it was the second in age of those I brought before the Academy; its cries, doubtless excited by artificial alimentation, which it endured with difficulty, were violent, and often continued during several hours; this circumstance alarmed me very much for the success of the operation, and made me sometimes regret that I had attempted it in this case; the result was, notwithstanding, most favourable, and you have doubtless remarked, that of the three infants which were presented to the Academy, the one of which I am speaking presents the least observable cicatrix, the mark left by the operation being, in fact, so slight, that considerable attention is necessary to discover it. Therefore it follows from these facts that the cries of infants operated on for hare-lip are less frequent than have been supposed, and that, even when most violent and prolonged, they do not hinder the success of the operation when the lips of the wound have been kept properly in contact.

## DEATH FROM SUB-PERITONEAL RUPTURE OF THE STOMACH.

In the *Annales et Bulletin de la Société de Médecine de Gaud*, Professor Burgqraeve gives a case of very great interest, both to the pathologist and to the medical jurist, of which the following are the particulars, as far as they can be learned from the Professor's description.

"A surgeon of active and temperate habits, but occasionally guilty of errors in regard to diet, had been complaining, during six months, of what he believed to be gastralgia, when he was summoned to serve on a jury at Gaud. Suddenly, after partaking of a hearty dinner, he felt himself alarmingly unwell. His skin was cold, corrugated, and covered with perspiration; the pulse contracted, and scarcely perceptible; the voice almost gone; respiration anxious; abdomen tense, and enormously dilated; an emollient lavement was administered, when suddenly, during the efforts at defæcation, emphysema made its appearance, and, extending to the neck, rapidly gave rise to the most alarming symptoms of suffocation. The action of the lungs

became partially suspended; the surface assumed a purple hue; the swelling increased with each effort of inspiration, and the patient, apparently involuntarily, was unceasingly engaged in efforts of deglutition. Soon all semblance of human shape almost completely disappeared, but occasionally a plaintive voice gave indication that the patient continued to suffer. Still intelligence was unaffected, and the patient calmly and collectedly took part in the consultation of three of his brethren as to the means to be opposed to such sudden and alarming indications, and, although hopeless of relief, strongly expressed his disapprobation of the proposal to practise paracentesis abdominis. From the very first a constant burning sensation of thirst caused the patient to cry out continually for cold water, which was swallowed with constantly increasing difficulty, although the involuntary efforts of deglutition were going on with ceaseless rapidity. Death took place immediately after an attempt to drink, but for a long time the chest continued to heave at gradually lengthening intervals, and every such effort swelled the body still more.

"*Section Cadaveris.*—The lungs were pressed back against the spinal column, and the heart was gorged with black blood. In the pericardium and right pleura there was some yellow serum, but no other lesion was observed in the chest. The anterior abdominal wall, enormously distended with gas did not collapse when the peritoneal cavity (which contained no air) was cut into.

"A cruciform incision shewed the stomach so distended as to occupy almost the whole abdomen, and its muscular coat appeared hypertrophied. On drawing it forward the gastro-hepatic omentum gave way and gas made its escape from the stomach through a large opening extending the whole length of the smaller curvature, from the cardia to the pylorus. At the place of rupture the muscular and mucous coats were in a state of pulsatious softening; the mucous coat, in proportion as it approached the opening, became injected with blueish blood, and sensibly thinned; there was no trace whatever, either of engorgement, ulceration, or adhesion; no other lesion could be discovered."

It is very much to be regretted that in his account of this important case, the Belgian Professor has not displayed more of that minute accuracy and precision which is the just boast of the French pathological school. We should like to know how long the patient lived after the alarming symptoms commenced, and the order of occurrence and exact nature of those symptoms; what were the means taken to test the integrity of the air passages, what were the contents of the stomach, and in what state, with many other questions necessary to satisfy our minds as to the exact nature of the lesion in question. The Editor of the *Gazette Médicale de Paris*, after quoting this case (which he considers *unique*), expresses doubts whether the air was actually effused from an orifice in the stomach, and seems inclined to believe that some lesion in the air passages had been overlooked, that the rupture occurred, not in the small, but in the large curvature of the stomach, and that the rupture of the muscular and mucous coats was caused by the same violence that tore through the peritoneum, or was wholly or partially occasioned by post-mortem erosion by the gastric juice, as in the cases described by Hunter. The following case, however, is so analogous, both in the excito-motory phenomena during life, and in the lesions found after death, that we are inclined to take the Professor's facts as he gives them, the more especially as we have read in Haller's *Opuscula Pathologica*, and also in the *Archives Generales de Médecine* (Vol. X. or XI., by M. Marjahn), of emphysema arising from a breach of continuity in the intestinal canal, although we have not the volumes at hand to refer to. Many observers have testified that emphysema from this cause is not rare in the inferior animals. (*Obs. sur les Animaux domestiques par MM. Cabert and Huzard.*)

"Last month a coachman, twenty years of age, whilst on a journey to Limeburg got ill on the way, but continued to follow his master, although the weather at the time was very irrclement. Increasing weakness compelled him, however, to remain at Helmstadt, where he was seen by Heister and others. The patient complained chiefly of difficulty of breathing and inability to swallow, but in particular he was continually affected with a peculiar suffocating sensation which made him feel as if drowning, and cry out to that effect (*quasi mox aqua suffocaturus esset*). His eyes were fixed and dim, and he had so much the appearance of a mad person, that it was difficult to say whether he cried out under the influence of delirium or not. The fauces were examined, and no swelling or other abnormal appearance could be discovered, but a soft puffy tumour, such as is called *emphysema*, occupied from the chin to the chest, and on being pressed a noise was produced, whilst the patient *kept continually spitting out*. The pulse was perfectly natural though rather weak, and the temperature of the body was not sensibly raised."

The patient being almost unable to swallow, enemata and embrocations were employed, and he was directed to sip tea, and barley water. He died during the night.

No lesion of the air passages could be discovered. The lungs, liver, and stomach were inflamed where they respectively touched the diaphragm, and on drawing the stomach to one side a rent formed in it large enough to admit two fingers, the part that ruptured being completely gangrened. "*Examinavimus hoc foramen atque ventriculum ibi putridum sphaceloque corruptum deprehendimus.*"—*Heisteri Obs. Medica. Miscellanea, &c., in Haller's Disputationum Anat. Select., vol. vi.*

The following is Professor Burggræve's exposition of the cause of death in the case which he has reported: "A rupture of the stomach took place under the peritoneum, and the air, forced through the opening by the movements of the chest, found its way into the general cellular tissue, chiefly along the spinal column, where this tissue is loosed, and was thence diffused over the trunk and extremities, hence the rapid efforts of deglutition which were remarked during life. The thoracic viscera and the large vessels were the first exposed to compression, chiefly from the air passing up through the posterior mediastinum. Compression was greatest in the neck, on account of the aponeurotic layers, amongst which are situated the trachea and great arterial and venous trunks. The air was arrested by the vault of the cranium, none of the foramina of which allowed it to pass, and in consequence the brain was left intact, and was only eventually affected by the incessant advance of asphyxia.—*Dublin Journal of Medical Science.*

## CHEMISTRY, MATERIA MEDICA, AND PHARMACY.

### ON THE HYGIENIC AND TOXICOLOGICAL EFFECTS OF TOBACCO.

We this week redeem the promise made in our last number, to analyze the discussion that has lately taken place in the Paris Academy of Medicine, on the hygienic and toxicological effects of tobacco, one of the most important subjects connected with hygiene that can possibly be broached. The discussion was elicited, as we have already stated, by the report of a committee appointed by the Academy, at the request of the Minister of the Interior, to examine the reports, for the year 1842, of the medical practitioners attached to the tobacco manufactories. It was these same documents that we ourselves examined in a former volume of the *Lancet*, (November 18th, 1843.) On that occasion we entered into numerous details respecting the five government manufactories for tobacco, situated in different parts of France; as, also, respecting the various processes through which the tobacco has to pass during the conversion into snuff and smoking tobacco. To avoid repetition, we shall refer our readers to the article alluded to, merely prefacing our remarks by a few explanatory

statements, which will be indispensable to enable those who are not already acquainted with the subject to understand the influences to which the workpeople of the tobacco manufactories are exposed.

The tobacco used in the French factories is partly received from the colonies, and partly the produce of home growth. It is manufactured into three forms—viz., tobacco for *smoking*, for *chewing*, and for *snuff*. Only the first and the last of the three are made in considerable quantities, a very small proportion being prepared for chewing. Tobacco for smoking is made in the following manner:—The lighter leaves being chosen, they are moistened with a solution of marine salt; they are then cut into shreds, at once exposed to a heat of 112° Fahrenheit, and laid to dry on hot plates. The process for making snuff is different. The leaves are, as before, moistened with a solution of sea salt, to prevent putrefaction, and cut into shreds, the larger ribs having, however, been extracted. The tobacco is then thrown into heaps, and allowed to ferment for several months. The temperature often rises as high as 130° or 140° Fahrenheit, and would become even higher, and carbonize the tobacco, were not precautions taken to prevent it. These precautions consist in the transfer, by manual labour, of the fermenting mass from one box to another. After it has thus remained during a sufficient time, it is ground in mills, and again heaped together to ferment. For these operations to succeed, great masses of tobacco must be wrought at the same time, as much, for instance, as twenty or twenty-five thousand pounds weight. From this brief sketch of the processes through which tobacco passes in its manufacture, it will be seen that the work-people are exposed, during the entire period of their labour, to the emanations either of *moist*, *fermenting*, or *pulverized* tobacco; that is, that they are exposed to it in a form in which the tobacco must necessarily be more or less introduced into the economy by the skin and lungs.

A careful analysis of the reports addressed to the French government, leads to the following conclusions:—That workmen who newly enter the manufactories, generally suffer for a few days, or even weeks, from headache and nausea, but that those sensations soon disappear, except among a limited number of individuals, who are unable to accustom themselves to the emanations; that the health of the workpeople is generally good, better, indeed, than that of the neighbouring population—a circumstance which may, however, be accounted for by their superior wages and more regular life;—that there is no malady whatever, nervous or other, from which they appear more particularly to suffer; that their lives seem to be quite as long as those of other work-people;—and that they are generally able to work until age or accidental illness stops their labours. It would even appear, from these reports, that the workpeople thus employed, enjoy, to a certain degree, exemption from phthisis. Let us now see how far these views are confirmed or invalidated by the recent labours and discussions of the Academy.

The committee appointed by the Academy was composed of three members, M. Loiseleur, M. Longchamps, and M. Melier. As the conclusions given above are fairly and legitimately deduced from the reports furnished to the minister, and handed over by him to the Academy, the committee was compelled, to either give its unreserved sanction to the conclusions, on the authority of their authors, or to examine the question itself. The latter course was the one resolved upon, and the manufactory of Paris, the largest and most important of all, was selected as the principal theatre for the committee's researches. The number of workpeople employed in that manufactory, alone, amounts to between twelve and thirteen hundred, the total number in the ten factories being about six thousand.

That the investigation might be as complete as possible, the committee first instituted a series of experiments on animals, with nicotine, the active principle of tobacco, to ascertain, with the greatest possible precision, the physiological and toxicological properties of the plant. The detailed account of twelve experiments on dogs, rabbits, and cats, carefully carried through, is given in the report. They all presented the same result; the effects produced being identical, whether the nicotine was introduced into the economy by a wound, by the buccal mucous membrane, or by the stomach. These effects were, nearly immediately, a peculiar state of disorder of the respiration, convulsive agitation of the diaphragm, convulsive and tetanic contraction of the muscles, vomiting, alvine evacuations, and death, if the dose was carried at all high. In the latter case, death was sometimes nearly instantaneous. Two drops of nicotine killed a cat; one drop killed



a rabbit; six drops produced all the above mentioned in two dogs, excepting death; another died with the same dose, as also did a fourth, which swallowed eight drops.

Having thus ascertained, by experiments, the effects produced on the animal economy by the active principle of tobacco—effects which are evidently those of a powerful poison, and may be compared with those of prussic acid,—the members of the committee commenced a series of researches in the tobacco manufactory itself. The workpeople were examined and questioned on the various processes; the influence of each on the health of those who are employed in it was analyzed; and the experience of all the officials was consulted. Indeed, every step was taken that appeared calculated to throw any light on the subject.

The following is the result of this inquiry, as contained in the report of the committee:—

All, or nearly all, workpeople, on their first admission to the manufactory, experience certain symptoms: cephalalgia, nausea, anorexia, insomnia, and diarrhoea. Generally speaking, these symptoms disappear in the course of eight or fifteen days. With some they do not give way at all, in which case they are obliged to leave the manufactory. The symptoms are more marked in women than in men. When once they have ceased to manifest themselves, the workpeople seldom complain, and are considered acclimated. In reality, however, they continue to experience the effects of the tobacco, as is proved by a change that takes place, in the course of time, in the colour of the skin. It gradually assumes a peculiar greyish tinge, which may be said to occupy a medium between the paleness of chlorosis and that of other cachexies. This change does not usually take place in less than two years. It may be remedied, like chlorosis, by the preparations of iron, and appears to be owing to some modification that has taken place in the blood, under the prolonged influence of the tobacco. A fact, which seems to show that the blood is modified in these workpeople, is, that when it is abstracted it is seldom buffed, so that it would seem to be partially deprived of its fibrin. One attempt was made to ascertain whether any of the principles of tobacco are contained in the blood, but none was found. An attempt was also made to discover the presence of nicotine in the urine, but without success. M. Boudet, the chemist to whom the experiment was entrusted, was not able to prove its existence, although he believes that it really is present. Plants (a rose-tree and a primrose) exposed to the emanations of the tobacco, in the workrooms, died down to the roots, but new shoots sprang up, which seemed endowed with considerable vitality. It appeared as if, like man, they suffered at first from the action of tobacco, but subsequently became inured to it. An orange-tree was not injured. Rabbits and birds remained a long while in rooms containing tobacco in a state of fermentation, without being, apparently, inconvenienced.

From what precedes, it is evident, says the committee, that the manufacture of tobacco is not a dangerous occupation; at the same time it cannot be considered innocuous. It exercises an evident influence over the health of those who are employed in its manufacture, both at first and at a subsequent period. These effects are, however, diminished by the extreme attention paid to the hygienic arrangements in the royal manufactories. It is impossible, at present, to give an opinion as to whether this kind of labour shortens life; first, from the continual change which is going on in the manufactories, and secondly, from the want of statistical documents. There are many old men to be found in them, some of whom have worked there from their youth. Most of them, however, seem to be labouring either under asthma, or from shortness of breath.

With reference to any beneficial influence which tobacco may exercise, the committee state that the workpeople are by its actions protected from, and cured of, rheumatic and neuralgic affections. It is also stated, that the manufacture of tobacco preserves them from intermittent fever, and probably from other epide-mical diseases, such as dysentery, typhus, &c. Scabies is not met with, and other diseases of the skin are rare. As to phthisis the committee does not seem to adopt the views of those practitioners attached to the tobacco manufactories (five out of ten) who think that the tobacco exercises a decided preservative influence over the workpeople. Inquiries, however, are now going on which will throw considerable light on this question.

In the debate which followed the reading of the report—a debate which occupied two sittings of the Academy—several facts were elicited, and opinions expressed, which are worth recording. M. Gaultier de Claubry stated that in 1831, a large

pool of stagnant water formed near the Paris manufactory, that intermittent fever made its appearance, and that it affected the workpeople of the manufactory, as well as other residents in the vicinity. M. Desportes said, that after the year 1791, tobacco-making fell into the hands of men who went about the country to prepare that which was grown by private individuals. Those whom he had seen were mostly asthmatic, and he had observed the grey colour of the skin mentioned by the committee. He thought that the air of the workrooms ought to have been analyzed, and that the workpeople ought to be made to wash before taking their meals. M. Chevalier considered that the grey hue of the skin was merely a superficial colouring, produced by the tobacco, and would disappear on the use of soap and water. This the members of the committee denied. M. Rochoux said that the workpeople became accustomed to the emanation of tobacco because it was a vegetable substance. It was impossible to become acclimated to mineral emanations, whereas it was possible to become acclimated to vegetable ones. M. Fontan was sorry that the committee had not investigated the formation of ammonia in the workrooms. In the fermentation-rooms it was considerable, and might account for many of the facts which had been mentioned. He thought it probable that the fermentation-rooms would also contain nitrogen in excess, and a great quantity of carbonic acid.

From the above analysis it would appear that the principal novel fact brought to light by the labours of the committee of the Academy, is the circumstance of the economy continuing to be modified by the tobacco emanations, after the first symptoms of intoxication have disappeared, until a kind of cachexia is established. We scarcely, however, as yet, consider ourselves to be called upon to admit the entire correctness of these views. If such really be the case, now that this peculiar state has been pointed out, it will at once become evident to every one, and will be observed in all the manufactories, and wherever tobacco is manipulated to any great extent. A short time, therefore, will prove whether the committee be right or wrong in this respect. If the emanations from tobacco be sufficiently deleterious to deprave the system, as to produce, in the course of a few years, a well-marked cachexia, the conclusions drawn from the reports of 1842, on which we founded our previous remarks, cannot be considered to be perfectly correct. We should have, indeed, to plead guilty to the charge of having been misled by the reports of the manufactory physicians, and of having, consequently, attached too little importance to the noxious effects of tobacco. The future reports from the manufactories will, in the course of a few years, no doubt, enable us to decide this question, the only one of any importance on which the report of the Academy committee differs from those of the manufactory physicians.—*Lancet*.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### CURE OF LARYNGISMUS STRIDULUS BY COD-LIVER OIL.

M. E. Roesch, in *Hufeland's Journal*, t. xc., gives several cases of this disease cured by cod-liver oil, in doses of a desert-spoonful four times a day. In some, other means were previously tried without the least benefit. The author concludes, from the rapidity of the cure, that enlargement of the thymus gland could not have been the organic cause of the disease, and he believes, that the curvative effect of the cod-liver oil is due to its *facilitating digestion*, and improving the tone of the constitution, and thus causing the nervous system to exercise only its normal influence.—*Dublin Journal of Medical Science*.

### IODIDE OF POTASSIUM.

At the same Society M. Jaenger related the case of a man afflicted with chronic coryza, subject to frequent aggravation of intensity, which had been treated ineffectually some fifty times. M. Jaenger, being led to suspect old syphilitic taint, ordered him iodide of potassium, which effected a cure in three or four days.

Some cases of neuralgia, of long standing, and giving rise to partial derangement, as well as a case of enormous



enlargement of the thigh, with fistulous orifices, reaching to the bone, the sequel of a blenorragia, were also related in proof of the therapeutic efficacy of iodide of potassium in doses of from 10 to 15 gr. per day.—*Dublin Journal of Medical Science.*

## MIDWIFERY.

### CONTROVERSY BETWEEN DR. SIMPSON AND DR. LEE.

We had some time since briefly to notice the controversy which had arisen between Dr. Simpson, of Edinburgh, and Dr. Radford, of Manchester, with respect to the priority of the discovery of the new plan of treatment in cases of placenta prævia, which the concurrent testimony of a large proportion of the members of the medical profession has shown to be not only available in such cases, but also of pre-eminent utility. A pamphlet, reprinted, from the pages of the *London Medical Gazette*, now lying before us, contains the details of another controversy which has been carried on in that journal between Dr. Simpson and a different antagonist, Dr. Lee, of Saville-row, whose previous engagement with Dr. Paterson, concerning the *corpus luteum*, must still be fresh in the memories of our readers.

It appears that Dr. Simpson published in the *Medical Gazette* for October the 10th, a communication entitled, "Some Remarks on the Treatment of unavoidable Hemorrhage, by Extraction of the Placenta before the Child, with a few observations on Dr. Lee's Objection to that Practice." In this paper Dr. Simpson commences by exposing his views as to the origin of the hemorrhage in cases of placenta prævia, which he believes to be produced principally from the open venous orifices of the placenta, in opposition to the opinion generally prevalent in the profession that the hemorrhage is derived directly from the uterus. The reason on which Dr. Simpson bases this opinion is, that the placental orifices are not, like the uterine surrounded by contractile fibres capable of constricting them: they are in free communication with the general vascular system of the mother through the medium of the maternal vascular, or cavernous system of the placenta; and the blood in that cavernous system escapes readily from the exposed venous orifices on the surface of the placenta—that being, in fact, so far, its natural and forward course.

In cases in which the placenta is partially and repeated detached before labour begins (as happens frequently in placental presentations), before each attendant attack of hemorrhage is arrested, the vascular system of the separated portion of placenta seems to require to become blocked up and impervious, with coagulated and infiltrated blood. This obliteration of its vascular cells prevents the further circulation of maternal blood through the detached part of the organ, and hence prevents also the further escape of it from its exposed surface. Each new detachment gives rise to a renewed hemorrhage, which again ceases on the sealing up of the vascular system of the detached part. A few cases of placental presentation are on record in which there was no attendant hemorrhage when labour supervened, the tissues of the placenta having, throughout the whole organ previously become so morbidly changed, obstructed, and impervious, as not to have any quantity of blood circulating in it and ready to escape, when at last its surface was separated from the interior of the cervix uteri under the occurrence of the uterine contractions.

In common cases of unavoidable hemorrhage, the amount of the attendant flooding seems to be as much regulated by the quantity of placental surface still remaining attached to the uterus, as by the quantity already separated from it—the degree of flooding depending as much, or more, upon the extent of the means of supply of blood, as upon the extent of its means of escape. And in proportion as we approach nearer and nearer a total separation of the placenta, the number of its *afferent* utero-placental vessels is diminished, till at last we find that when the one organ is once completely separated from the other, the flooding is instantly moderated, or entirely arrested; for the placenta ceases to yield any discharge of maternal blood, as soon as its own supplies from the maternal system are thus cut off by the disconnection of all its organic and vascular attachments with the uterus.

Reasoning on these facts, and supported also by the direct evidence derived from two cases of unavoidable hemorrhage, which had occurred some years ago in his practice, in which the loss of

blood moderated or entirely ceased as soon as the whole placenta was completely separated—a spontaneous occurrence—the non-recurrence of hemorrhage after the placenta has been removed having been noticed also in cases where its abstraction had been effected by midwives and others in cases of supposed mismanagement—Dr. Simpson was led to the conviction that, in some complications in unavoidable hemorrhages, the principles of treatment successfully acted upon by nature might be advantageously adopted. He accordingly drew up an account of 141 cases of placental presentation, in which the placenta was expelled or extracted before the child, from an analysis of which he drew the following deductions:—

1. The complete separation and expulsion of the placenta before the child, in cases of unavoidable hemorrhage, is not so rare an occurrence as accoucheurs seem usually to believe; and it is not by any means so serious and dangerous as (according to the commonly received doctrines of uterine hemorrhage) might a priori be expected.

2. In 19 out of 20 cases in which it has happened, the attendant hemorrhage was either at once altogether arrested, or became so much diminished as not to be afterwards alarming.

3. The presence or absence of flooding after the complete separation of the placenta, does not seem in any degree to be regulated by the extent of the interval intervening between the detachment of the placenta and the birth of the child.

4. In 10 out of the 141 cases, or in 1 out of 4, the mother died after the complete expulsion or extraction of the placenta before the child; whilst, as we shall see immediately, about one in every 3 of the mothers dies under turning and extraction of the child in unavoidable hemorrhage.

5. In 7 or 8 out of these 10 natural deaths, the fatal result seemed to have no connection with the complete detachment of the placenta, or with consequences arising directly from it; and if we did admit the 3 remaining cases (which are doubtful), as leading by this occurrence to a fatal termination, they would still only constitute a mortality from this complication of 3 in 141—or of about 1 in 47 cases.

Dr. Simpson acted in accordance with this view, and we need scarcely add, after the numerous instances of success we have already recorded in this journal, his patient made a perfect and speedy recovery. As we have already remarked, in the commencement of this article, his claim to the priority of the practice is disputed by Dr. Radford, of Manchester, who indeed brings forward strong evidence to show that the same plan of treatment was adopted many years ago. On this point, however, we will not now dilate; let it suffice that the entire separation and abstraction of the placenta prior to the birth of the child has been found an unfailing remedy in cases of unavoidable hemorrhage by a large number of medical men, who have already recorded the results of their experience in its favour. It was not, however, to be expected that so great an alteration from the old plan of proceeding should be carried into execution, *namine contradicente*. Accordingly we find in the *Medical Gazette* for September the 19th, that Dr. Lee has entered his dissent against it.

To the remarks offered in that communication Dr. Simpson demurs; in the pamphlet now before us he examines into the objections, and corrects the mistakes committed by Dr. Lee. Those we shall notice *seriatim*.

The first objection which is canvassed is, that Dr. Lee sees no reason to depart from the practice which has been followed in placental presentations, from the days of Ambrose Paré to the present time. The usual practice in these cases is well known to all. 'The operation of turning (he observes) is required in all cases of complete placental presentation,' but 'is not necessary in the greater number of cases in which the edge of the placenta passing into the membranes, can be distinctly felt passing through the os uteri.' (Lectures, p. 372.) In these last, rupture of the membranes is sometimes sufficient. This opinion against the new plan of treatment is supported by Dr. Lee adducing a tubular view of eight late cases of placental presentation, in all of which the mothers recovered. In three of these cases turning was practised; three others craniotomy; in one the membranes were ruptured; and in the eighth the placenta was perforated. Only three of these cases were complete presentations; four were partial, and one was uncertain. In opposition to this Dr. Simpson brings forward the result of sixty-one cases, drawn from Dr. Rambotham's reports of the Maternity Charity, and Dr. Lee's private published cases, in all of which turning and extraction of the placenta had recourse to. Twenty-four out of the sixty-one mothers survived.

under this treatment; so that about sixty-five per cent. were saved, and thirty-five per cent. died.

The great mortality resulting from the treatment of turning in placental presentation, may be more strongly shown to some minds if the fact is stated in another form. In order to ascertain the fatality of the Cæsarean section abroad, Dr. Churchill collated with much care the histories, from foreign authorities, of 371 cases of the operation. Out of these 371, 217 mothers recovered, and 154 or nearly 1 in every 2.410ths died (Midwifery, p. 318). This is exactly, and to a fraction, the degree of maternal mortality accompanying turning in placental presentations, in the cases reported by Dr. Lee in his Clinical Midwifery. In other words, the success of turning in unavoidable hemorrhage, in Dr. Lee's private and consultation practice (as reported in that work) has not been greater than the reputed success of the Cæsarean section upon the continent of Europe.

The second objection is referable to a mistake made by Dr. Lee, who appears to suppose that Dr. Simpson recommends the artificial detachment of the placenta in all forms of placental presentations in which turning is at present adopted, whereas Dr. Simpson explicitly mentioned it as to be adopted when rupture of the membranes is insufficient, and turning inapplicable or unusually dangerous. It will be found, for instance, the proper line of practice in severe cases of unavoidable hemorrhage complicated with an os uteri so insufficiently dilated and undilatable as not to allow, with safety, of turning; in most primiparæ; in many of the cases in which placental presentations are (as very often happens) connected with premature labour and imperfect development of the cervix and os uteri; in labours supervening earlier than the seventh month; when the uterus is too contracted to allow of turning; when the pelvis or passages of the mother are organically contracted; in cases of such extreme exhaustion of the mother as forbid immediate turning or forced delivery; when the child is dead: and when it is premature and not viable.

Dr. Simpson quotes eleven cases of placental presentation from Dr. Lee's Clinical Midwifery in illustration of the first set of cases, where, with unavoidable hemorrhage, the os uteri was thick, rigid, and undilatable. Of these eleven cases three only of the mothers survived, two of them making a very narrow escape from death. Dr. Simpson, in commenting on these cases, says he doubts "if the most fatal of all human diseases—the plague itself—be found to destroy so large a proportion of those attacked. At all events, the operation of turning and artificial delivery, in unavoidable hemorrhage, with the os uteri imperfectly dilated, would, from these and other cases, appear to be more deadly than any operation that is deemed justifiable in the whole circle of surgery. It is more mortal even than ovariectomy." On the other hand, he believes "that in the above and similar cases, by the introduction of a finger, or of a common sound or bougie (such as Dr. Hamilton employed when the os uteri was still shut, in order to separate the membranes for some inches from the cervix, in order to induce premature labour), the placenta might be readily and completely detached—the attendant bleeding in this way arrested—and the labour subsequently allowed to proceed to a natural and safe termination, if it were a head or pelvic presentation. And if the child were placed transversely, a more safe and proper period could be waited for and selected for the version of it." The separation of the placenta, according to the conjoint testimony of Dr. W. Hunter, and Dr. Lee, may, in the generality of instances, be readily effected.

The third objection made by Dr. Lee, that the practice of extracting the placenta, was not followed by Guillemeau, Mauriceau, Portal, Levret, Giffard, &c., is certainly most futile; for if new plans of treatment are not to be adopted because not sanctioned by ancient authorities, the science of medicine must sink into a mere art, and be governed merely by precedent. Dr. Simpson, however, fully confutes the statement made by Dr. Lee, as far as regards Portal, from whom he quotes the following passage. Portal is describing his 43rd case:—"Je glissai ma main dans l'entrée de la matrice, où je sentis l'arrière-faix qui se présentait. L'ayant séparé, afin de me frayer le chemin, je sentis les membranes des eaux que je perçai, et les eaux s'étant écoulées, je tirai l'arrière-faix le premier, afin qu'il ne m'incommodât point à la sortie de l'enfant." Nothing can be clearer; the separation and abstraction of the placenta prior to the birth of the child, is set down in the clearest and most positive language.

The fourth objection made by Dr. Lee is readily disposed of. Dr. Lee refers to the case recorded by Guillemeau of an ignorant impostor, who, attending a lady in childbirth, pulled away part

of the placenta, the patient dying of hemorrhage. It is consequently not a case in point; the entire separation of the placenta is what Dr. Simpson contends for, as alone capable of arresting the hemorrhage and saving the mother's life.

Dr. Lee's fifth objection is, that the child would inevitably be lost by this mode of practice. This objection is more apparent than real. According to the old plan of proceeding, about sixty-five per cent. of the children were lost; while, according to Dr. Simpson's statement, out of 106 cases in which the placenta was expelled before the child, the infant was born alive in thirty-three instances, that is to say, thirty-one per cent. were saved. He adds that "in most of these cases the child was expelled within a few minutes after the complete separation of the placenta. When the interval is longer, and we require, after the detachment of the placenta, to wait for a length of time, is there no hope of making the child survive by continuing either its placental or pulmonary respiration during the intervening period? Dr. Lee tells us that in some case of pelvic presentation, acting upon the suggestion of Dr. Bigelow and "older accoucheurs," he has, before the head could be extracted, pressed back the material parts "that the air may gain admission into the mouth of the child and the respiration go on, when the circulation in the cord has been arrested. I have seen (he adds) from twenty minutes to half an hour elapse in some cases after the cord had ceased to pulsate.

If the head be low down, the fingers can alone give the necessary assistance; but if it is high in the pelvis, and reached with difficulty, the assistance of a tube may be required. (Lectures, p. 335.) Is it hopeless to suppose that the same principle, or other means, may yet be successfully employed to keep the child alive, after the placenta has been extracted in unavoidable hemorrhage, and in some cases give it even a greater chance of life than under the continuance of the flooding, or the operation of forced delivery?"

The sixth and last objection raised by Dr. Lee is, that one of Dr. Simpson's tables gives an erroneous view of the common degree of maternal danger attendant on placental presentations, when it shows that one out of three mothers perishes under this obstetric complication. While admitting the occurrence of some inadvertent errors in his statements, arising from the pressure of his occupation, Dr. Simpson, in his answer, shows from the statements made by Dr. Churchill, and by Dr. Lee himself, that he has not overrated the danger in these instances.

This special objection made by Dr. Lee, led to a correspondence between Dr. Simpson, Dr. Ramsbotham, and Dr. Lee, which we shall next proceed to examine.

The letters which passed between Dr. Simpson and Dr. Ramsbotham have reference to some arithmetical inaccuracies, which both frankly acknowledge, Dr. Simpson excusing his error on the plea of the almost insuperable difficulty of securing perfect accuracy in tabular returns, and Dr. Ramsbotham referring his mistake to an error of transcription.

The succeeding correspondence between Dr. Simpson and Dr. Lee, which, *Hibernice*, may be said to open in the concluding letter from the Edinburgh professor to Dr. Ramsbotham, is one upon which we scarcely care to dwell, as it has not been conducted as medical controversies connected with matters of science should be—a marked degree of ill feeling having been exhibited on both sides, and matters totally irrelevant to the subject in debate having been introduced—the sole effect of which—we will not say the intent—must be to depreciate the scientific character and standing of one of the disputants. The absolute matter in dispute between these gentlemen is, whether Portal has described more than eight cases of complete placental presentation, and further, whether he has detailed any cases of partial presentation of the placenta. Dr. Lee asserts, that in Portal's work, as stated by him in his "Clinical Midwifery," there are described eight cases in which the placenta was not merely at the os uteri, but adhering to the cervix all round, and that the remaining cases were instances of partial presentation. To this Dr. Simpson demurs; he admits fully the eight complete cases, but regards the others described by Portal as equally complete. He says, "I have procured here a sight of Portal's work, lest my memory should have possibly deceived me, and find that the other cases (six in number) are as follows. After relating Case 29, in which the head of the child, in its exit through the os uteri, actually perforated through the placenta itself (the placental presentation being hence complete), Portal adds, that not long afterwards he delivered a gentleman in St. Dennis Street, under the same circumstances in the presence of Dr. Linkerd, &c. In Case 51, Portal tells us, that the placenta was 'placed just before, and quite

across the whole inner orifice of the uterus,' and 'in concluding the history of this (51), he states, that in the year 1683 he had completed the delivery successfully in five similar cases, all the women having recovered.' (Dr. Lee's Lectures, p. 366). 'In the year 1683,' observes Portal, in his own account, 'I delivered five women under the same circumstances,' &c.

"We regret to observe that, in closing his correspondence with Dr. Lee, he challenges this as a misstatement on the part of Dr. Lee, instead of a misapprehension, as it might have been, and as he (Dr. Simpson) might have been expected to interpret it, after remarking in a previous letter addressed to Dr. Lee, that 'the investigation is of such a kind that two persons, with every anxiety for truth and accuracy, may read and interpret differently the very data upon which we have to work.'" We feel still more regret that such a charge should have been made, as it elicited a note from Dr. Lee, which we are sure, on due deliberation, he must deeply regret ever having penned.

It is a source of great vexation and of humiliation, that members of the medical profession, educated as gentlemen, holding rank and station as such, and being received and treated in society as such, can, when they enter into controversy with each other, whether it be on questions of theory or points of practice, so far forget their high calling, as to descend to personalities and rude attacks on each other, instead of devoting their time and attention to the investigation of the matters in doubt between them. *Mais patience, le bon temps viendra*, and, although the idea may seem Utopian, we yet entertain a confident hope that ere long the members of our profession will remember on all occasions that they are gentlemen.—*Medical Times*.

#### VESICO-VAGINAL FISTULA.

Dr. BERTHET read three cases in which he had succeeded in curing vesico-vaginal fistula by cauterisation assisted by insufflation. After preparing the patient as usual, he blows air into the bladder continuously during the operation, so as to render the fistula prominent in the vagina, and to separate its lips. He then cauterises with a red-hot cautery the entire extent of the edges of the wound. Subsequently, these edges are, at short intervals, cauterised with the nitrate of silver, and the vagina is kept plugged with cotton, introduced by means of the speculum. The patient is placed, whilst the treatment lasts, in such a position as to prevent the urine from bathing the edges of the wound. The regimen must also be severe; the more so the better. The only food which he allows is a small quantity of dry bread or toast, along with a little boiled or roast meat. The effect of this diet is to diminish the quantity of urine secreted, the excretion of which is the principal obstacle to the cure of the disease.—*Reports of Académie de Médecine—Lancet*.

#### CÆSARIAN SECTION: BOTH MOTHER AND CHILD SAVED.

At a Medical Society of the Upper Rhine, M. Dittmar, at the request of the President, gave the following verbal account of a case in which he performed this operation with complete success:—

"Barbe Gerber, aged 39, living near St. Marie-aux-mines, of apparently a good constitution; is the wife of a poor day labourer, who supports, with difficulty, a numerous family; her parents, as well as her brothers and sisters, four in number, have always enjoyed good health. In six pregnancies, previous to that of which we are speaking, she carried her infants to the full term, but after the fourth malacostion, accompanied with chronic bronchitis, made its appearance, recurring with increased severity at every succeeding confinement, so that during the sixth she completely lost the use of her lower extremities; notwithstanding, under the use of cod-liver oil, her state improved very much. The consequence of this disease was a remarkable diminution of stature, and a deformity of the pelvis, rendering the sixth accouchment very tedious; it was, however, accomplished without the aid of a physician.

"During the whole period of the seventh pregnancy, the patient found herself very well, with the exception of some little difficulty in walking. On the 1st of August last she felt labour pains, and on the 2d, at six in the evening, the

membranes ruptured, and a left hand presented. M. Dittmar was not sent for until midnight, when the following was what he found: through the belly, which was very prominent, he felt the head of a fœtus above the upper straight of the pelvis, resting on the pubic arch. The vulva was enormously swollen, and between the labia appeared the left hand of the child. The 'toucher' astonished M. Dittmar by informing him of the extreme narrowing of the biischiadic diameter, and of the closing in of the pubic arch, which would barely admit of the passage of two fingers. It was with great difficulty that he was able to satisfy himself as to the position of the child; the occiput rested on the right half of the symphysis pubis, with the forehead turned toward the left sacro-iliac synchondrosis, also resting on the brim of the pelvis. Strong uterine contractions, quickly succeeding each other, only increased the tumour on the head of the child; the head itself remained fixed. M. Dittmar at first thought of breaking up the head, and then extracting it with the cephalotribe, as he had done in a similar case a few weeks before, but being soon convinced, from the state of the pelvis, that even this operation was impracticable, he had a consultation on the case with M. Wolf.

"The first thing to be done was to learn accurately the dimensions of the pelvis, and the following are the conclusions at which they arrived: The height of the woman is 1m. 40 (4f. 9-11),\* the vertebral column presents no deviation from the normal state, the last false ribs on each side touch the internal margin of the crest of the ilium.

"From one anterior superior iliac spine to the other is but 0m. 27 10.63 in.)

"From sacrum to symphysis pubis, 0m. 18 (7.08 in.)

"From one trochanter to the other, 0m. 27 (10.63 in.)

"The sub-pubic antero-posterior diameter, 0m. 026 (3.88 in.), from which 0.006 (0.23 in.), must be deducted for the soft parts. The right oblique diameter, approximately estimated from external measurement, is 0m. 06 (2.26 in.), and the left a few millimetres more. The coxysub-pubic diameter, 0m. 053 (1.86 in.), and lastly the biischiadic diameter, 0m. 06 (2.26 in.)

The ilio-pubic arch, in place of being widened, presents a marked convexity inwards, greater at right than at left side; in consequence of this deformity the symphysis is very prominent, projecting in a beak-like process, and its plane is nearly horizontal, its inferior edge being turned towards the sacro-vertebral angle.

These measurements having convinced both practitioners that it was absolutely impossible for the head to pass down into the pelvis and clear the inferior aperture, they thought of the Cæsarian operation as the only means of safety to both mother and child, and proceeded to practise it at noon on the 3rd of August.

The incision was made in the linea alba, and extended four or five centimetres (one and a half to two inches), beyond the umbilicus; a small omental hernia occurred at the superior extremity of the wound, but was easily reduced. The bladder, rising about six centimetres above the pubis, prevented the incision being extended in that direction, and the uterus had to be swayed forward a little in order to carry the incision sufficiently far upwards. A female infant, at the full term and in perfect health, with the exception of a slight depression of the parietal, produced by pressure against the sacro-vertebral angle, was easily removed through the wound which had been made. The umbilical cord was very short, and so frangible that on extending it a little it ruptured in two places. The uterus contracted strongly after being emptied of its contents, but M. Dittmar, apprehensive that the wound would close so much as to prevent the removal of the placenta, brought it away by introducing his hand, it having some points of ad-

\* The numbers in parenthesis are the French measures reduced to English inches and decimal parts.

herence. The uterine contraction afterwards relaxing unequally at the two edges of the wound, it remained gaping and bossed at one side; to prevent the intestines insinuating themselves into it, it was closed by a single point of interrupted suture, the integuments were brought together by four points of interrupted suture, and the dressing was completed by slips of adhesive plaster covered by charpie and a bandage.

The reaction following the operation was very slight, the lochia made their appearance on the third day, and soon became purulent, at the same time the breasts enlarged, and gave milk freely. Circumscribed peritonitis appeared several times in the hypogastric region, but was dissipated by leeches, cataplasms, and mercurial frictions, constipation was combated by castor-oil and calomel. The only alarming symptom that presented itself was in the chest; the patient, being affected with mucous catarrh, had the respiration very much impeded by the intestines being pushed up towards the chest, and by the copious mucons choking up the bronchi; this state of things was very much improved on the removal of the bandage. Cicatrization of the wound went on rapidly and was completed on the 25th day, with the exception of a small fistulous opening, which it took two weeks longer to heal. Six weeks after the operation the patient was able to work.—*Gazette Medicale de Strasbourg*.

## MISCELLANEOUS.

### ORIGIN AND PROGRESS OF STORMS IN THE UNITED STATES.

[From the report of the Surgeon-General of the United States Army to the Secretary of War, dated Nov. 1, 1845, we copy the following letter from Mr. Espy, the meteorologist, to Dr. Lawson. Mr. Espy, as well as the Surgeon-General, deserves great praise for his meteorological investigations, and it is gratifying to perceive that their researches are likely to be crowned with success.]

Sir,—With the aid of Lieut Irons, I have since my last "report," completed ninety-two meteorological charts, for the months of January, February and March, 1844. These are the months corresponding to those of my first report for 1843.

In that report I ventured to draw from the documents then collated the following twenty generalizations:—

1st.—The rain and snow storms, and even the moderate rains and snows, travel from the west towards the east, in the United States, during the months of January, February and March, which are the only months yet investigated.

2d.—The storms are accompanied with a depression of the barometer near the central line of the storm.

3d.—This central line of minimum pressure is generally of great length from north to south, and moves sideforemost towards the east.

4th.—This line is sometimes nearly straight, but generally curved, and most frequently with its convex side towards the east.

5th.—The velocity of this line is such, that it travels from the Mississippi to the Connecticut river in about twenty four hours; and from the Connecticut to St. John's, Newfoundland, in nearly the same time, or about thirty-six miles an hour.

6th.—When the barometer falls suddenly in the western part of New England, it rises at the same time in the valley of the Mississippi, and also at St. John's Newfoundland.

7th.—In great storms, the wind, for several hundred miles on both sides of the line of minimum pressure, blows towards that line, directly or obliquely.

8th.—The force of the wind is in proportion to the suddenness and greatness of the barometric depression.

9th.—In all the great and sudden depressions of the barometer, there is much rain or snow; and in all sudden great rains or snows, there is a great fluctuation of the barometer.

10th.—Many storms are of great and unknown length from the north to the south, reaching beyond our observers on the Gulf of Mexico and on the northern lakes, while their east and

west diameter is comparatively small. The storms, therefore, move sideforemost.

11th.—Most storms commence in the "far west," beyond our most western observers; but some commence in the United States.

12th.—When a storm commences in the United States, the line of minimum pressure does not come from the "far west," but commences with the storm and travels with it towards the east.

13th.—There is generally a lull of wind at the line of minimum pressure, and sometimes a calm.

14th.—When the wind changes to the west, the barometer generally begins to rise.

15th.—There is generally but little wind near the line of maximum pressure, and on each side of that line the winds are irregular, but tend outwards from that line.

16th.—The fluctuations of the barometer are generally greater in the northern than in the southern parts of the United States.

17th.—The fluctuations of the barometer are generally greater in the eastern than in the western parts of the United States.

18th.—In the northern parts of the United States the wind, in great storms, generally sets in from the north of east, and terminates from the north of west.

19th.—In the southern parts of the United States, the wind generally sets in from the south of east, and terminates from the south of west.

20th.—During the passage of storms, the wind generally changes from the eastward to the westward by the south, especially in the southern parts of the United States.

The great uniformity of the phenomena accompanying the storms of the first three months of the year 1843, emboldened me to draw the above generalizations; observing, at the same time, "how far these generalizations will apply to other months of the same year, or to the same months of different years, remains to be seen by future investigations."

I have the pleasure now to state, that the phenomena exhibited in the charts herewith communicated so entirely correspond with the above generalizations, that there seems to be no necessity to make any change in them. It is therefore expected that future observations will establish them as laws, applying to these, and perhaps to the other winter months.

In the summer months, however, there is one great feature of the storms of the winter months wanting; that is, their great size. In the summer the rains are quite local; and though, like the winter storms, each rain appears to progress towards the east from the place of beginning, yet, from want of size and continuity over a great space, they are not so easily traced.

I shall, therefore, not attempt to deduce any generalizations for the summer storms, until all the journals which may be received for several years shall have been collated.

In conclusion, I will venture to deduce two other generalizations, as applicable to the storms of January, February and March.

21st.—The northern end of the line of barometric minimum generally moves faster towards the east than the southern end.

22d.—The maxima and minima of the thermometer move towards the east with the storms.

All which is respectfully submitted.

JAMES P. ESPY.

—*Boston Med. and Surg. Jour.*

### MEDICAL CONGRESS AT PARIS.

(From the Medical Times.)

The Congress adopted, at its first meetings, the following resolutions by its committees, and discussed in the general assemblies, to be laid before the Minister of Public Instruction, as the expressions of the general wishes of the profession:—

#### Faculties of Medicine.

1. That a chair of the history of medicine be created at the Faculty of Paris, and one of morbid anatomy at the Faculty of Montpellier.

2. That official courses of lectures be delivered at the special hospitals of Paris, i.e., Children's Hospital, St. Louis, &c.

3. That a preparatory School of Medicine be created in Corsica.

4. That all persons legally belonging to the medical profession shall enjoy the right of teaching the various branches of medicine.

chirurgical science, and that right shall be distinctly specified in a particular clause of the new law.

5. That as much latitude as possible shall be granted to the liberty of teaching, and government shall pledge itself to place in Paris, and in the principal cities of France, amphitheatres, subjects, and other things necessary for tuition, at the disposal of all the members of the profession, to whom it may thus lend efficient assistance.

6. Free instruction shall not interfere with official instruction, the former diffusing private doctrines and opinions only, and conferring no university privileges.

7. The new law shall expressly sanction free instruction, so useful to humanity and to science; the legislation having hitherto occasionally granted the right of free instruction in its broadest sense, and occasionally interfered with it by throwing insurmountable obstacles in its way.

8. That the Congress do express a desire that the Minister of the Interior and of Public instruction be requested to insert a special clause, with the view of giving full satisfaction to the necessities of free clinical instruction in Paris, and in the departments.

9. The election of professors in the faculties of medicine and in the special schools of pharmacy, and veterinary medicine, shall take place by public competition.

10. At such concours, the board of electors shall be composed of professors of the faculty, members of the Royal Academy of Medicine, and (M. D's) who shall have practised at least for the space of five years; each of these sections shall form one-third of the total number of members of the board.

11. The board of electors in the departments shall be composed of an uneven number of professors of the local faculties, and of persons elected by ballot by the faculties and schools, amongst the members of pre-existing societies of medicine and pharmacy, and in default of these, amongst the practising physicians and apothecaries of the city.

12. The functions of professor shall cease at the age of sixty-five; after that age the professors shall become "honorary," and participate in the councils, and administration of the faculties and schools, without being admitted to share in the examinations. They shall continue to receive their salary up to the age of seventy, when they shall be superannuated.

13. The above clauses also refer to professors of secondary schools.

14. That the institution of "Professeurs agrégés" be preserved on its present footing.

15. On entering a secondary school, pupils shall present the degree of bachelor of letters. Besides this degree, in the faculties, after one year's study, the degree of bachelor of sciences shall be required of them.

16. The pupils shall be classed according to the years of study.

17. At the end of each year the pupils shall pass an examination of probation.

18. Government shall be requested to open establishments to receive in-door pupils.

19. The term of medical study shall be of five years' duration at least; and the pupils shall furnish proof of having, during two years, performed practical service in the hospitals.

20. In the examination of the inaugural thesis, the candidate shall be interrogated by an equal number of professors of the faculty and of medical practitioners chosen by the medical colleges of the city.

The following are the chief resolutions taken with regard to pharmacy:—

1. That the degree of bachelor of letters shall be required before the beginning of the study of pharmacy. The diploma of bachelor of sciences shall be required after the year 1850. The faculties of pharmacy shall confer three degrees—bachelor, licentiate, and doctor in pharmacy; the latter only giving the right to practise pharmacy. The course of studies shall last seven years, during four of which the pupil shall be apprenticed to an apothecary.

2. The codex shall be submitted to a complete revision, a new edition shall be published every ten years, and an appendix or fasciculus shall be printed every year.

3. The codex shall be drawn up by a permanent committee, formed in equal numbers of professors of the school of pharmacy, faculty of medicine, veterinary medicine, and practising apothecaries.

4. A legal tariff, fixing the price of medicines, in the present condition of pharmacy in France, is useful, possible, and necessary.

Several important questions still remain to be discussed. The illegal practice of medicine; the expediency of preserving two orders of practitioners; the possibility of putting some check on the advertising mania of quacks; the disciplinary councils, and the institution of midwives, will be, during the course of next week, submitted to discussion in the Congress; we shall forward to the readers of the *Medical Times* the resolutions adopted by that assembly.

The session of the Medical Congress has now closed, and the following resolutions, added to those contained in our last communication, from the body of the modifications in medical instruction and medical practice, proposed by Congress to the Legislature:—

Resolved,—

1. That after the new law shall have been promulgated, only one medical degree—that of doctor in medicine—shall be conferred in France.

2. That the "*officier de santé*" having practised in that capacity for the space of five years, shall be empowered, by a special clause to receive the diploma of M. D. after a practical examination in medicine and surgery.

3. That the illegal practice of medicine shall be well defined in the new law, and repressed by severe penalties.

4. That a medical college be erected in every district, comprising all the physicians resident therein.

5. Every year each medical college shall elect by ballot a medical council; that council shall be empowered to inflict five degrees of disciplinary penalties:—1. Admonition (in private); 2. Reprimand (in council); 3. Censure (in public); 4. Temporary censure from the list of practitioners; 5. Definitive censure from that list.

6. It shall be the duty of medical councils to direct the attention of the attorneys-general towards persons illegally practising medicine.

7. That all foreign physicians desirous of practising medicine in France, shall be required to obtain the diploma of M. D. in a French university, and to pass on the same footing as Frenchmen—the six examinations and the thesis.

8. Political refugees shall be admitted to examination without expense.

9. That a certain number of "bourses" in the faculties of medicine shall be granted by public concours to pupils having studied two years.

10. All public notices, or advertisements in newspapers, pamphlets, or prospectuses, announcing to the public the arrival of a physician, his direction, a special medical treatment, or the sale of any medicinal preparation whatever, are forbidden, and their authors shall be punished by severe penalties.

11. The simultaneous practice of medicine and pharmacy is strictly prohibited.

Such are the principal resolutions adopted by the Medical Congress—resolutions which will doubtless be taken into very serious consideration by the Chamber of Deputies and by Government. M. Salvandy, the minister of public instruction, attended two of the meetings, and expressed his intention of giving, as far as lay in his power, every satisfaction to the desires of the profession.

The 7th resolution may appear illiberal in its tendencies, but the protection of the public and of the interests of the profession demanded imperatively some such measure, and it was carried under the influence of the following remarks from Drs. Gorée and Malgaigne:—

Dr. Gorée, delegate of the Boulogne Physicians.—The city of Boulogne contains seventeen French doctors and twenty-one foreign physicians. Six of these twenty-one, only, have obtained a legal right to practice medicine—four having been authorised by royal ordonnance, and two having passed the examination of "*officier de santé*." The fifteen others practice medicine illegally, and the law is powerless against this abuse.

Dr. Malgaigne.—I here see two sorts of foreign physicians, gentlemen. There are many great and learned men, who enjoy a well earned reputation of talent and science; these men honour any university they belong to, and your examinations will not frighten them away. But these men form a very small minority amongst the persons who practice medicine away from their

homes. I will mention to you the opinion of a man whom all acknowledged to be competent in such matters, M. Orfila, the dean of the faculty of Paris, asserts it is impossible to form an idea of the ignorance of the foreigners who demand authorisation to practice medicine in France; out of one hundred, five at most could pass an examination with credit.

Shall I speak of some German universities—of that of Giessen, for instance—whose commercial agent, one Mr. Bond, advertised for months in the medical and political papers the £50 degrees? Shall I say that the faculty of Wurtzburg has ceased to exist, in consequence of the same abuses? Is it necessary for me to add that the Marbourg forwards its diplomas, by post or by waggon, to whoever asks for them, even to women? and we all have seen Madame Boivin, who had never put her foot within the gates of Marbourg, displaying the diploma of M. D., purchased from that university. Professor Forget, of Strasbourg, represents at this Congress the physicians of the département du Basrhin, who loudly call for your assistance against quacks from the other side of the Rhine—a new invasion of barbarians, whose numbers overpower the unprotected legal practitioners. As to political refugees, give them a home, give them assistance of every kind, but do not give them the lives of your fellow-creatures; that you have no right to do. What we positively demand from Congress is, to oblige foreigners desirous of practising medicine in France to furnish the same proofs of capacity which are required from Frenchmen; we demand it in the name of common sense, of public health, which you are called upon to protect, and of the dignity of our profession, which you are bound to uphold.

DAN. MC CARTHY, D. M. P.

President of the Parisian Medical Society, late Interne of the Hospitals of Paris.

#### FACULTY OF MEDICINE, PARIS.

*Faculty of Medicine; First Meeting of the Winter Session, November 3, 1845.*—The opening lecture was delivered by the professor of hygiene, M. Roger Collard. It is customary in this speech to sketch the life and appreciate the writings of those professors whom the faculty has lost in the course of the preceding year. Professor Breschet was the theme of M. R. Collard's discourse, from which we extract the following passages:—

"The life of a professor is in his works; in them we seek, not the pretext for a vain display of oratory, or the matter of a panegyric, but fruitful examples, and lessons extracted from a retrospective view of the instructions he has imparted. The first work of our late colleague, which I will notice, is the remarkable thesis to which he was indebted for his nomination at the concours for the direction of the school of anatomy, in 1819. This thesis contains. 1. The description of the venous circulation of the spinal cord—the first accurate description which had yet been made, not only of the anatomical disposition of its vascular system, but the general mode by which the blood is circulated through the Rachidian veins. 2. A memoir on the formation of the callus of fractured bone; the theories contained in it are still universally adopted. 3. A paper on femoral hernia, containing the first description of the anomalous origin of the obturator and epigastric arteries.

"Time and space would fail me, gentlemen, were I to attempt to give you even a rapid and incomplete sketch of Breschet's researches on embryology—his description of the ear, of the skin—his experiments on animal heat, &c.

"If we now consider the general tendency of Breschet's works, we find them all distinguished by this special character, that whatever might be the subject towards which he directed his sagacious inquiry, he always laboured to demonstrate some physiological view strongly impressed upon his mind. It seems to have been his object—an object which he often attained—to establish the connecting links of physiology between the various parts of medicine; thus each part borrowing from the others an assistance which it reciprocally gives them, no partial truth can be elicited, no minute discovery be made, but that sheds a vivid light upon all branches of knowledge.

"Not only did Breschet translate, or cause to be translated, many foreign works, not only did he produce before the broad daylight of our schools, and protect with the respected authority of his name, opinions which their obscure origin might have long kept in the background; but what is a remarkable circumstance, he improved erudition by the force of invention, never touching the labours of another without enlarging and increasing tenfold the importance of the borrowed subject; and by the peculiar felicity

with which he knew how to endow a thought foreign to himself with the irradiations of his original mind. Breschet, whose least publications have attracted the attention of Europe, ever escaped the imputation of plagiarism, in an age in which the accusation is so frequent.

"It has been truly said of Breschet, that he represented foreign science at home, and French science abroad; and it is not, gentlemen, a trifling service rendered to society, thus to connect men, born in distant lands, in one scientific bond of union! Doubtless, in the world of knowledge nothing is lost, and humanity can wait; but the life of a man is short, and consumed in the toilsome pursuits of discoveries which have become popular at a short distance from the home of his birth. Let us, therefore, rejoice for the present time, and congratulate ourselves for future ages, when we find that men born in different climes now progress hand in hand in the broad path of science, communicating to each other their discoveries, and for the permanent benefit of the human race, mutually enriching themselves by the constant interchange of the treasures of intellect.

"Before talent, before even genius, it is my object to hold up to your honour and reverence the love of science; recollect that those men only are destined to live in the memories of their fellow creatures, who employ their labours in forwarding the interests of the human mind.

"Gentlemen, you who now listen to my words, to you I turn. The debasement of our profession is every day deplored; protecting laws are loudly called for, and increased respect demanded for the medical body. Remember that in our age, respect is granted only to individuals; it can no longer be written in the legislator's code, nor enacted by orders in council. If you wish to be honoured, shew yourselves worthy of the vocation you have accepted, by bestowing all your energies on those studies by which you expect, at a future day, to rank above other men. In your hands are placed the easy means of acquiring knowledge; your masters are ardently devoted to the performance of the task which their country and their talents have imposed upon them. Rival faculties surround you, supplying you with the most varied resources of science; libraries, museums, amphitheatres, are open to you on all sides. Pupils of the Faculty of Paris, aid our efforts by your own, your country has a right to expect much from you, and, we pledge ourselves, that you will not frustrate its hopes."—*Dublin Medical Press.*

*Exhumation of the Remains of Bichat.*—M. Rigal, secretary of the Medical Congress, read to the Academy the minutes of the proceedings of the delegates commissioned by the Congress, to superintend the removal of the remains of Bichat to the cemetery of Père la Chaise. The body had been interred in the year 1803, in the burial ground at present occupied by the Anatomical School of Clamart.\* The bones were found in a perfect state of preservation, and the head, which had remained in the possession of Professor Roux, was restored and placed with the other relics in an oak coffin. A funeral service was celebrated at the church of Notre Dame, and a cortège of upwards of two thousand persons followed in procession to the cemetery of Père la Chaise, where several speeches were pronounced by Professors Serres, Roux, Rigal, &c., recalling the numerous virtues of Bichat, and the many services rendered by him to science and to humanity. This ceremony, performed in memory of the great anatomist, closes and commemorates the labours of the Medical Congress of 1845, the first attempt in France to obtain a general meeting of the members of the profession.

#### PENCILINGS OF EMINENT MEDICAL MEN.

DR. JAMES JOHNSON.

"O misero frater adempte, mihi!  
Omnia tecum una perierunt gaudia nostra,  
Quæ tuus in vita, dulcis alebat amor,  
Tu mea, tu moriens iregisti commoda, frater,  
Tecum una tota est nostra sepulta anima."

CATULLUS.

After a long, at first rugged and laborious, and at last successful life, Dr. James Johnson has become a tenant of the still and peaceful grave. He died at Brighton on the 10th of October last.

\* The exhumation took place on Sunday, Nov. 16, 1845, in presence of a numerous meeting of professors and physicians.



There is on some occasions a mournful gratification in descending on departed worth; but in the present instance the loss, not only to a bereaved family, but to the public, is so irreparable that our own regrets render it impossible to note his dissolution without those feelings of unmitigated regret to which no language can give utterance. We had the good fortune to be intimately acquainted with Dr. Johnson for many years, and though tempted to try to pen a fitting tribute to his memory, feel but too certain that we must fail to do it justice. In noticing his death, therefore, we shall endeavour to confine ourselves to a simple narrative of the principal events of his life; and if some of his more intimate friends may be aware of the facts relating to him that we are in possession of, they must pardon us the recital on the score of those less fortunate. The history, simple though it be, is fraught with instruction—an incentive to the cultivation of industry, honour, and probity, and a practical lesson that, in the day of trial, when heart and flesh faileth,

"That man hath perfect blessedness  
Who walketh not astray."

Dr. Johnson was born in the month of February, 1777, in the parish of Ballinderry, on the banks of Lough Neagh, in the county of Derry, Ireland. He was the youngest son of his parents, and survived all his father's family. His father and mother died when he was of tender age. His father cultivated a small farm, which had been long in the possession of his family, and both his parents were highly respected. James went, at the age of six years, to the village school of Ballinderry, which was kept by the brother of the parish priest; but he was himself, as were his family, Protestants. He left school before he had reached the age of fifteen, and it may be said that at that period his regular course of scholastic instruction terminated, so that he became, to all intents and purposes, a *self-taught* man, and, as the sequel will show, one of no ordinary acquirements. He made great progress at school; was almost always at the head of his class; wretched when he was not so, and he would sit up till midnight studying until he had succeeded in regaining what he seemed to think his proper place, whenever he had lost it. Soon after this he left his native country, and in the course of his life travelled a great deal. In his travels he was an acute and constant observer, always taking credit to himself for studying the character of man, with which he became as well acquainted as perhaps any individual of his day. At an early age he entertained a strong desire to study medicine, but without money, and without friends, he met with many obstacles, and had to surmount innumerable difficulties before he had acquired that degree of information which qualified him to pass his examination, and become a medical man. By frugality and industry he acquired sufficient to enable him to effect his apprenticeship. He employed all his leisure time in reading; gained his medical information piecemeal, and from being an assistant to an apothecary in London, was enabled to attend such lectures and dissections as qualified him for the situation as a surgeon's mate in the navy. Having obtained that situation he became an immediate favourite with the surgeon and captain of his ship. They admired his abilities, his attention to his duties, and his thirst for knowledge, and permitted him to steal away from the vessel that he might expend the pay he had saved in attending further lectures, practising dissections, and procuring additional information. In this way he followed up his even, unbending way until he was competent to become, and actually did become, a full surgeon in H. M. navy. He was for some time on the coast of Egypt, whence he returned to London invalided. As soon as his health was a little restored he hastened again into the dissecting-room, and there, as his teacher, Mr. Wilson, said of him, he *lived*. Having in this way, by snatches, obtained his professional education, he spent many years in the naval service, and in 1813 took his degree of M.D. at Aberdeen. Afterwards he studied for a short time in Paris, and became a Licentiate of the London College of Physicians in 1820. He was forty-one years of age when he commenced his career as a physician in town; was then married, and had several children, with barely sufficient, as might well be expected, to supply them with the necessities of life. But he relied on his own energy of character, and, confident in himself, he made a *courageous debut*. He never lectured publicly, but for some time after he came to reside in London, he received private pupils, to whom he delivered private lectures on medicine.

Remembering that he was self-educated, and how limited were his opportunities, the extent of his writings, and the literary at-

tainments shown in them, are surprising. In the first place, he published, in 1808, a graphic account of his voyages and observations in the East, called the "*Oriental Voyager*," a book full of interesting information. Secondly, he published, in 1812, a book "*On the Diseases of Tropical Climates*," which has gone through five large editions, and is, to this day, regarded as the medical text-book in the East Indies. Extraordinary as it may appear, under the untoward circumstances of his youth, it is indisputable that the materials for this valuable book were collected, and the book itself composed by him when he was under twenty-six years of age. It has been universally held to be distinguished for its copiousness, physiological accuracy, and practical worth. Thirdly, he published many papers in the *New Medical and Physical Journal*, of which he was one of the editors. Fourthly, he himself started the *Medico-Chirurgical Review*; a work conducted with great energy, and usefulness to the profession, for many years, and every line in which he wrote with his own hand, and more frequently than otherwise at midnight, after he had discharged the laborious duties of the day. Fifthly, he published, in 1825, an "*Essay on Indigestion*." This has been the most popular work on dyspepsia ever written. It went through four full editions in nine months, and is now to be had in its ninth. The doctor was himself a martyr to dyspepsia, and it is believed by his family and those who knew him, that he has described in that book no more than he personally suffered. Notwithstanding he was a man of great moral courage, yet he was of a highly nervous temperament; and to such a degree was he the subject of hypochondriacal depression, that, on one occasion, when every guinea was essential to him, he left London in the middle of the season and retired to Margate, as he said, to die. The merciful hand of Providence, however, invigorated him—restored him again to health, and spared him for many years afterwards to be a blessing to his generation. The appearance of the work on indigestion spread his reputation in every direction, brought him into full practice, and at once raised him to independence. Sixthly, he wrote "*Change of Air, or the Pursuit of Health*," a work dashed off with great spirit and vivacity, and exhibiting all the peculiarities of his style. He, himself (agreeing with all others who had read it), thought highly of this little essay, which has gone through four editions. Seventhly, he published, in 1833, "*The Recess, or Autumnal Relaxations in the Highlands and Lowlands*," presenting a lively sketch of what he saw and experienced in Scotland, and full of amusing observations and anecdotes. Eighthly, in 1836, he published "*The Economy of Health*." This has gone through three editions, and is another of those popular works of which he was himself peculiarly fond, in which he was extremely happy as a writer, and the composition of which afforded him more pleasure than any earthly amusement. Ninthly, "*A Tour in Ireland*," published in 1843, which is full, as are all his writings, of acute original and interesting observations, made and pronounced irrespectively of all parties and persons, and founded altogether by his own convictions. Besides these, he was the author of numerous papers in the *Medico-Chirurgical Review*.

He was long a member of the Medico-Chirurgical and Westminster Medical Societies. Whenever he could so manage his arrangements as to admit of time for it, he attended them. He was not an eloquent speaker, but what he said was always to the point, and remarkable for its straightforward practical character. It carried with it intrinsic evidence of sincerity and truth, and he was always listened to with attention and respect. Though not a fluent debater, he had a happy knack of saying a humorous and clever thing, not unfrequently a pungent one. He was a man of strong natural talent—of a patient and reflective mind—with a ready and lively imagination, and a faculty which, if not wit of a high order, was not very far removed from it. At times, he was disposed to take up party views, but that disposition was kept in check by the soundness of his judgment, and by his long experience of the world. There was also in him, at times, what has been observed in many men of the kindest hearts—an occasional testiness of manner, the result, no doubt, of incessant occupation, and the nervousness occasioned by it. None could regret this little failing more than he did himself, nor could any one more studiously have contrived to make the *amende* by some subsequent act of generosity. It would be difficult, indeed, to exaggerate the amiability of his disposition, or his liberality of feeling. He was an affectionate husband, a good father, kind to his children, judiciously indulgent to them, and loved by them all in return. He was a warm and an attached friend, generous to his patients and



to others to a fault. If he had but an idea that any one could ill afford to pay his fee, nothing would induce him to accept it. However gratuitous his professional services might be, his attendance was as unremitting, and his solicitude as great, as if his remuneration was of the most princely character. Perhaps no medical practitioner ever secured the affections of his patients more readily and more lastingly than his qualities enabled him to do; and those alone who have seen can form some notion of the degree of grief, that now pervades the numerous class, who have been partakers of his healing and fatherly assistance.

His published works, and the events of his life, testify that he must have possessed a capacious mind. No man of ordinary powers, under the circumstances in which he was placed, could have acquired the professional knowledge which he did; nor could such a one ever have attained that eminence in the profession at which he arrived—acknowledged, as he was, to have been a practitioner of first-rate ability. Whatever he undertook to do, he did, without turning to the right or to the left. *Industry! industry!* was his motto, and it was certainly his practice. When conducting his "Medico-Chirurgical Review," he was never known to go to bed, however fatigued, or even ill, until he had written his appointed portion for the day. When he started on a tour, the parts which he should have written, during its continuance, had been written before hand; and even these tours were but rounds of incessant activity. He never, while engaged in them, retired to rest before he had committed to paper what he had seen or what had occurred to him throughout the day. His return home was a return to work as before, and to compose, amidst his laborious practice one of his amusing essays. At the very same time, he would be revising his book "On the Diseases of Tropical Climates," recomposing editions of his former works, and reading extensively. The secret means by which he accomplished so much was—punctuality in all things—never putting off till the morrow, what he could do to-day. Another peculiar trait in his character was, his abhorrence of debt. Even at the time when he was in his greatest pecuniary difficulties, it is believed that he never borrowed a shilling. Throughout his life he lived within his means, and never owed a farthing. He paid for every thing as he got it; or, if the occasion admitted of it, even in advance; and at his death no individual could claim a sixpence against his estate, which could by possibility have been paid before he expired. He had a contempt for show and parade, and carried that feeling to eccentricity. He dressed plainly, and lived in a very private and unostentatious style. Generally speaking, self-educated men become dogmatical and vain, but he was the reverse of both. Humility stamped him for her own. He never affected to be what he was not; seldom did he even assume the appearances which his means would have justified; but still he was, in manner and in mind, a gentleman. He had a fine sense of moral rectitude. He viewed delinquencies in their right light, however glossed over by meretricious circumstances; and yet no one could have been more forgiving than he was, when the offence was committed against himself. He was a religious and a just man; and, though a sincere Christian, his religious sentiments were of the most tolerant description. *Charity* to all men was the essence of his creed, and his precepts and his practice never disagreed.

Notwithstanding his all but blameable liberality, he derived from his practice for many years past, a large income, and but for his generosity, that income might have been doubled. At the time of his death, his yearly savings were greater than they had ever been; and had he been spared for a few years more, his accumulated earnings must have been considerable. He spared no expense in the education of his children; qualified all his sons for the liberal professions, supported them by adequate allowances, and died, leaving to his widow comparative affluence, and to his children sufficient to sustain, but not supersede industry.

Dr. Johnson lived in Suffolk-place, Pall-mall, where for many years he carried on a very extensive practice as a physician. We say Dr. Johnson, because he himself preferred so to spell his name. The name of his father, however, and of himself in boyhood, was *Johnston*; but at an early age, from some whim, probably a philological preference for the more rhythmical spelling of what originally was the same name, he dropped the "t," and ever afterwards signed his name *Johnson*. Whether his family may now resume the original name, or not, we do not know. He was about the middle height, rather under than over that standard; muscular, though of a spare habit; very active; of a fresh and ruddy complexion; open and frank countenance, with a remarkably full,

penetrating, and intelligent eye; an ample forehead, and a general expression of mildness and goodness of heart. Till very lately his figure was perfectly upright, but latterly he began to stoop. His hair, which he generally wore very short, was dark and thick, and had scarcely begun to whiten from the frost of sixty-eight winters. What is rather remarkable was that he never lost a tooth, nor even knew practically what toothache was, until within a short time previous to his death, when he was occasionally heard jocosely to say he feared he should be under the necessity of parting with one of his old friends. He was abstemious, but not penurious in his mode of living; simple and unaffected in his manners; affable, and on all occasions easy of access. Although, from its interference with his studious habits, he was averse to society, yet, when in it, he was cheerful, amusing, full of anecdote, and few persons could be for any length of time in his company without feeling that his mind was not only a store-house of varied information, but that his character was that of unadulterated kindness and truthfulness. His wife was a lady, amiable in disposition, and unobtrusive in her character, with whom, in the bosom of an affectionate family, he enjoyed much domestic happiness. By his marriage he had five sons and one daughter. His eldest son, Henry James Johnson, now occupies his late father's house. He is a consulting-surgeon, senior assistant-surgeon at St. George's Hospital, where he lectures on anatomy, and is a gentleman of sound professional knowledge, of kind and easy manners, the inheritor of many of his father's qualities, and destined, we trust, to leave unsullied his father's name. His second son, William John, Fellow of Caius College, Cambridge, is at the bar; his third, Thomas Edward, is a solicitor; his fourth, Charles Stewart, died when young, which gave a perceptible shock to his parent; and his fifth, Athol Wood, is now house-surgeon at St. George's Hospital.

Until about eighteen months ago, Dr. James Johnson enjoyed very tolerable health. About that time he began to decline, and he was induced, for the sake of change and relaxation, to take a residence at the beautiful village of Norwood, at a distance of about six or seven miles from town. He went there, and visited London daily, but did not derive from it the benefit it had been hoped he would have done. After two months' trial, he returned to his house in Suffolk-place. In the hope of sea-air being beneficial to him, he resolved on going to Brighton for a month or two, and intended to visit London occasionally. He accordingly repaired there, but, from his long habits of activity, he was unable to remain at Brighton a single day without visiting London. For about the first fortnight he came to town daily, returning to Brighton in the evenings. Soon after he went to Brighton he was attacked with diarrhoea, which continued to afflict him until he expired. On Saturday, the 4th of October, he was in London as usual; saw his patients, transacted business, and returned in the evening. In the course of his journey down he was attacked with a rigor, and when he arrived at Brighton he said to his wife, that unless he could perspire freely he should never recover. Next morning he was alarmingly ill, and he continued, without a cessation of his dangerous symptoms, until Friday following, the 10th instant, when he resigned his soul into the hands of his Maker. On all former occasions of his illness, from his nervous temperament, he was much liable to despondency, even when his ailments were only trifling; but in this instance he felt differently: he was immediately aware of his situation. He spoke of his approaching end with the greatest calmness, and those who witnessed his last moments say, that in no case could there be a more perfect picture of manly endurance and Christian resignation to the will of God, than he exhibited on his death-bed. He spoke composedly and tenderly to his wife and children, who surrounded his couch. While he was yet able to articulate, his language told that his thoughts were even then anxiously employed about their little personal wants. The simplicity and kindness of his nature were manifested to the last; and care for others, none for himself, was his final trait upon earth. If there ever was a just and good man it was James Johnson: and whatever his acquirements, his talents, or his wealth, he has left to his sons his best legacy in the recollection of his worth.—*Medical Times*.

#### MEDICAL PRACTITIONERS IN LONDON.

It appears from Mr. Mitchell's Medical Directory that the number of medical practitioners in London is 2,157; of these 330 are physicians; 245 surgeons; and 1,582 general practitioners.

### HISTORICAL ACCOUNT OF THE POTATO DISEASE.

The epidemic observed amongst the potatoes is not a new malady. In 1816, under the influence of a cold and damp season, they were affected in the same manner as at present, to such an extent as to cause the destruction of a considerable part of the crop in France; and every successive year, isolated cases of the same alteration are generally met with. The present epidemic is said to have begun in Ireland, in 1842, whence it spread to England, Holland, Belgium, Germany, Piedmont, Savoy, and France, preserving in all these countries the same specific characters; and thereby indicating that it is due to the deleterious influence of one general cause, viz., the abundant rains and the low temperature which have prevailed during the last three summers. The visitation has afflicted the drier as well as the most humid soils, the highest grounds as well as the lowest, and in the neighbourhood of fields wherein the crop was utterly destroyed, other fields, placed in apparently identical condition, have enjoyed an inexplicable immunity; in the same field some potatoes have been spared, nay, in the same root diseased tubers are found in immediate contact with healthy ones, although they derived their nutriment from one common stalk, and would seem to have been liable to the same disorders. It is from the 10th to the 15th of August of the present year, that agriculturists agree in placing the origin of the complaint. At that period, under the influence of a sudden change of temperature, the vegetation was arrested, the soil remaining *sans amour*, according to the picturesque and poetical expression of the French husbandman. The early potatoes—the pink and the red kidney—have suffered less, whereas, the yellow and the late kidney variety (*vitalotte*) have been almost altogether destroyed.

**Anatomical Alterations.**—We may refer the anatomical changes to two heads:—1st structural changes in the cellulovascular texture of the potato; 2nd, modifications undergone by the fecula.

1. On dividing the potato, the diseased portions are marked by their rusty colour; their odour is characteristic, and betrays the cryptogamic formations. The tissue is softened, and more easily dissociated than that of the healthy parts which are white and of a firm consistency. According to Mr. Payen, the microscope shows, in thin slices of the infected potato, a liquid of a light brown colour, occupying the inter-cellular spaces; on the walls of the cells are noticed darker granulations, which may also be seen floating in the brown fluid above mentioned. In some potatoes the cortical portion alone has suffered; in others, by far the smaller number, the central part. When the alteration is in an advanced stage, the texture is semi-liquid, and myriads of animalculi can be detected. Their length is 1-100th of a millim.—their breadth 1-1000th of a millim, and they are endowed with very rapid movements. Minute cryptogamic productions, visible only to the microscope, are also seen, being generally puccinias with two cavities, and some belonging to the variety of the fungus described by Martius under the name of *Fusisporium Solani*. When the decay is in its last period, acari, and insects of the order rhabditis, are found in the superficial ulcers of the tuber.

2. The condition of the fecula is quite healthy in most potatoes—the grains remaining perfect in the centre of indurated diseased cells; but the flour is less abundant than in healthy tubers, and much more difficult of separation. The diseased potatoes have yielded to M. Payen, 14 per cent. of their weight of fecula—healthy ones furnishing 18 per cent. This diminution in the amount of fecula arises from two causes:—1st. The absence of secretion from the cells in late potatoes; 2d. Putrefaction in those tubers which are in an advanced state of decay. When the changes are very considerable, the potatoes are an alkaline of reaction.

Three theories are brought forward to account for the disorder:—1st. The development of animalculæ (Gruby); 2d. Parasitic vegetable formations (Payen, Morren, Montagne, Decaisne); 3d. Stagnation of the fluids of nutrition (Philippart, Gerard, Decerfz, Bouchardat). This last opinion seems to us the only correct one; it accounts readily for all the morbid appearances, and may be supported by the same chain of reasoning by which we explain in the human system the formation of dry gangrene of the extremities, or softening of the substance of the brain from vascular disease, thus:—The circulation of the vital fluids of the potato begin arrested by a sudden change in the temperature, the secreting cells deprived of nutriment have ceased to live, and consequently to secrete fecula. In early potatoes, the flour being already form-

ed at the period of invasion of the malady, has undergone no alteration, but is more difficult of extraction from being surrounded with dead, indurated cellular walls. In late potatoes, on the contrary, the cells being rendered incapable of secretion, no fecula is formed; in both, decomposition following gangrene; vegetable and animal parasites arise and complete the work of destruction, but they can no more be considered to have caused the disorder than the worms met on a dead body can be looked upon as having occasioned death.

*Can the Diseased Potatoes be used as Articles of Food without Danger?*—The result obtained from minute and extensive inquiry on this head point to the following conclusions:—1st. The fecula met with in diseased potatoes is, to all intents and purposes, in a healthy condition, though more difficult to extract than from the healthy tubers; 2d. The diseased potato is injurious to health only by its indigestible properties; 3d. The disorder being due to unfavourable atmospheric conditions, its further propagation is not to be apprehended.—*Proceedings of the French Institute. From Medical Times, Nov. 1845.*

## British American Journal.

MONTREAL, JANUARY 15TH, 1845.

### BILLS OF MORTALITY.

This number will be found to contain the deaths in this city, condensed in tabular form from the detailed statements made by the Clerks of the different burial grounds, to the Chief of Police, who has been invested by the Corporation with instructions to carry their lately enacted By-Law, having this object in view, into execution. A simple inspection of the book from which this return has been deduced, will convince any one in the slightest degree acquainted with these matters, that the system at present pursued, fails in attaining the object sought for. It is not only the knowledge of the number of deaths that is valuable, but also of the diseases which have tended to a fatal issue, and some other method should be devised to secure this end than the one adopted, which by no means answers the purpose. The truth of this observation will be manifest, when we cast our eyes over some of the items in the table. Thus, the number of deaths from "Consumption," under one year of age is recorded as 11, and between one and three as 6. May we not doubt the correctness of this statement, or, at least, for the purposes of accuracy, might we not, with propriety, ask what "Consumption" here means? or whether the term may not here include other diseases besides Phthisis, possessing probably some points of similarity, a matter of but little importance to any ordinary enquirer, but of prime consequence to the statistician. Again, under the head of "Inflammation," we find recorded 4 deaths. We ask for the seat of this "Inflammation?" Was it in the head, chest, or abdomen? Again, with reference to the number of deaths recorded as originating from "Fever," we find 18 under the age of 3, and 8 between the ages of 3 and 10. The most ordinary medical experience in this city will not hesitate to pronounce an error here; and we are moreover uninformed, admitting this return to have been made correctly,

of the particular type of the Fever, whether it was of a continued, typhoid, remittent or any other type. And lastly, the return under the head of Dropsy, permits of some suspicion as to its correctness.

In making these observations, our object is by no means, to convey the slightest disapprobation on the endeavours of our City Council to obtain the returns, of which the present one is the first, in fulness of detail. We feel perfectly persuaded that they have endeavoured to secure accuracy, and that it has been their wish to do so; but the question is, is the By-Law competent to the end? Judging from this specimen, its first result, we hesitate not to affirm that it is not; the By-Law itself is wanting in some proviso by which the name of the disease shall be accurately returned to the sextons. There is only one method of securing this desirable end, viz.—by compelling the sextons to receive from the friends, a memorandum of the nature of the disease, certified by the medical attendant's name, as his guarantee that the name of the disease is correctly returned to him. This method would necessarily extend the provisions of the By-Law over the medical profession of the city; but we feel thoroughly persuaded, that to secure an object of such moment as correct returns of the causes of mortality, no member of the Profession here would throw the slightest impediment in the way, but, on the contrary, would do all in his power to facilitate it.

If we may be permitted to judge, by the names of the diseases recorded in the volume from which our abstract has been made, of the sources whence the information, as to their nature has been derived, we can have no difficulty in assigning as the authorities, the friends themselves. For numerous reasons which it is unnecessary to particularize, but many of which will readily suggest themselves to our readers, we need do little more than observe, that information on such subjects, and from such sources cannot generally be depended upon; if accuracy is at all a matter of any importance. We would, therefore, strongly urge upon the civic authorities, whose object in this undertaking only can be accuracy as great as possible, to so far modify their By-Law, as to ensure this *desideratum*, in order that the results obtained may be assumed as data, against the value and correctness of which no suspicion may rest, when, at a future period, they may be taken as grounds of reasoning, for the purposes of statistics, life assurance, or, indeed, any other purpose to which they may be rendered susceptible of legitimate application.

#### MEASLES EPIDEMIC.

The measles have been epidemic in this city to an unusual extent, during the last two months. There are very few families indeed in the city which have escaped

the visitation. It appears to have been attended in some instances with a striking peculiarity,—the same individual in a family having been attacked a second time, within the period of a few weeks, the disease going through its premonitory and eruptive stages with most marked regularity. This appears to us to be a rather anomalous feature in the history of this disease, and one which seems to us to be well worth recording. Irritation of the mucous membrane of the large intestines, amounting almost to dysentery, has been not unfrequently observed, while the ordinary sequelæ have been frequent. 137 deaths from it have been recorded during the month of December, and 37 during the last three weeks of November. This mortality appears to have principally occurred among the lower orders; and may, irrespective of the injurious influence of crowded rooms, want of ventilation, and poor diet, be chiefly attributed to the baneful practice, which is common with this class, of exhibiting during the precursory stage, which is one of general constitutional irritation, if not excitement to say the least of it, hot stimulating drinks of a spirituous nature. It is a practice which cannot be too strongly reprobated. The cases which have fallen early under medical care, have, as a general rule, terminated very favourably. A few scattered cases of scarlatina and small-pox have been witnessed, but the chief cause of sickness has been the measles.

#### TORONTO GENERAL DISPENSARY.

We have received a Prospectus announcing the establishment of a Dispensary, under the above name, at Toronto. Institutions of this nature when properly conducted prove themselves valuable auxiliaries to the Hospitals and other recipients for the indigent sick, and we are happy to learn that this one is extensively patronized and likely to succeed beyond the most sanguine expectations of its projectors. Judging at this distance from the names of the gentlemen who are to compose its Medical Staff, viz., Drs. Hamilton, Hodder, Rankin, and Grasett, we doubt not the complete success of the charitable undertaking.

While on this subject, we may state, that in Kingston another Hospital has been established under the professional care of Dr. Yates, and that a second Eye and Ear Institution has sprung into existence in this city under the charge of Dr. Howard, its originator. With this multiplication of charitable institutions, the means of support to each respectively will become proportionably lessened, and their sphere of utility consequently diminished, we yet hope that such praiseworthy efforts will not pass unrewarded, and that the poor for whose benefit they are especially designed, will obtain all that good from them which they are calculated to afford.

#### NOTICE TO CORRESPONDENTS.

We acknowledge the receipt of communications from Dr. David, and Dr. Marsden, of Nicolet. The subject of one from the latter, will form the matter of a private letter, in the course of a few days, when leisure will permit. As our space is crowded, we have no room to acknowledge the receipt of letters from our country subscribers in an especial manner. To those, however, who have remitted the amount of their annual subscription, a receipt will be transmitted along with the present number, with our acknowledgements for their attention.

## BOOKS, &amp;c. RECEIVED

The New-York Medical and Surgical Reporter, No's 5, 6.  
 The St. Louis Medical and Surgical Journal, No. 7.  
 The Illinois Medical and Surgical Journal, No. 8.  
 The Dublin Medical Press, No's 359, 360.  
 Provincial Medical and Surgical Journal, No. 48.  
 Boston Medical Journal, No. 21, 22, 23.  
 American Journal of Insanity, Vol. 2, No. 3.  
 Wiley and Putnam's Literary News Letter. January.  
 Stockton's Dental Intelligence, Vol. 2, No. 2.  
 American Journal of Dental Science. December.  
 Armour and Ramsay's News Letter. January.  
 The New-York Journal of Medicine. January, 1841.  
 Southern Medical and Surgical Journal. January.  
 American Journal of Science and Arts, January.  
 Buffalo Medical Journal No. 8.  
 Illinois do 9.

REPORT OF THE MONTREAL GENERAL HOSPITAL  
FOR NOVEMBER AND DECEMBER, 1845.

Dr. CRAWFORD, } Attending Medical Officers.  
 Dr. HALL, }

Remained, . . . . .	104	Discharged, Cured, . . . . .	212
Admitted, . . . . .	231	Died, . . . . .	7
		Remaining, . . . . .	116
Total treated, . . . . .	335	Total, . . . . .	335

## IN-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . .	188
Immigrants, . . . . .	37
Seamen, . . . . .	6
Total, . . . . .	231

Males, . . . . .	155
Females, . . . . .	76
Total, . . . . .	231

## OUT-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . .	354
Immigrants, . . . . .	47
Total, . . . . .	401

Males, . . . . .	210
Females, . . . . .	191
Total, . . . . .	401

## DISEASES AND ACCIDENTS.

Abcessus, . . . . .	4	Hæmoptysis, . . . . .	1
Ambustio, . . . . .	1	Hamatemesis, . . . . .	2
Ammonorrhœa, . . . . .	2	Hepatitis—sub acute, . . . . .	3
Bronchitis, . . . . .	5	Icterus, . . . . .	6
Catarrhus Vesicæ, . . . . .	1	Induratis Mamma, . . . . .	1
Colica Pictorum, . . . . .	1	Mania, . . . . .	1
Constipatis, . . . . .	1	Neuralgia, . . . . .	1
Contusio, . . . . .	8	Edema Pulmona, . . . . .	2
Conjunctivitis, . . . . .	2	Ophthalmia, . . . . .	4
Cynanche, . . . . .	1	Orchitis, . . . . .	2
Delirium Tremens, . . . . .	3	Paronychia, . . . . .	2
Diarrhœa, . . . . .	5	Perioetites Humercitis, . . . . .	1
Dysenteria, . . . . .	3	“ Cruralis, . . . . .	1
Dyspepsia, . . . . .	2	Pleuritis, . . . . .	1
Eczema, . . . . .	1	Pleurodynia, . . . . .	1
Epilepsia, . . . . .	1	Pleura Pneumonia, . . . . .	1
Erysipelas, . . . . .	2	Pneumonia, . . . . .	1
Febris Com. Con., . . . . .	72	Phthisis, . . . . .	3
“ Intermittent, . . . . .	1	Psoriasis, . . . . .	1
“ Typhoides, . . . . .	6	Rheumatismus, . . . . .	13
Fistula in Ano, . . . . .	1	Rubeola, . . . . .	5
“ Lacrymalis, . . . . .	1	Scrofula, . . . . .	3
“ Palato, . . . . .	1	Synoritis, . . . . .	2
“ Perineo, . . . . .	1	Syphilis, . . . . .	14
Fractura, . . . . .	9	Subluxatio, . . . . .	1
Frambesia, . . . . .	1	Ulcus, . . . . .	15
Gilatio, . . . . .	3	Varix, . . . . .	1
		Total, . . . . .	231

ALEXANDER LONG, M.D., House Surgeon.

MONTHLY RETURN OF SICK IN THE MARINE AND  
EMIGRANT HOSPITAL, QUEBEC, FROM THE 1<sup>st</sup> TO  
THE 31<sup>st</sup> OCTOBER, 1845.

J. E. D. LANDY, House Surgeon.

## DISEASES AND INFIRMITIES.

Febris, . . . . .	16	Strictura Urethræ, . . . . .	2
Scarlatina, . . . . .	1	Fractura, . . . . .	11
Delirium Tremens, . . . . .	2	Luxatio, . . . . .	1
Catarrhus, . . . . .	2	Subluxatio, . . . . .	2
Asthma, . . . . .	1	Contusio, . . . . .	19
Diarrhœa, . . . . .	3	Vulnus, . . . . .	4
Rheumatismus, . . . . .	7	Ulcus, . . . . .	4
Icterus, . . . . .	2	Abcessus, . . . . .	4
Hydrops, . . . . .	4	Ustio, . . . . .	1
Herpes, . . . . .	2	Cataract, . . . . .	1
Ophthalmia, . . . . .	4	Fistula in Ano, . . . . .	1
Orothitis, . . . . .	8	Morbus Coxarius, . . . . .	1
Syphilis, . . . . .	24	Morbi Alien, . . . . .	6

133

## NUMBER OF PATIENTS TREATED DURING THE MONTH OF OCTOBER.

Remained, . . . . .	74	Discharged, . . . . .	134
Since Admitted, . . . . .	133	Died, . . . . .	3
		Remaining, . . . . .	48
Total, . . . . .	207	Total, . . . . .	207

\* One compound of the tibia, and fibula; one of the clavicle; one compound of the humerus; one of the radius; one of the femur; one of the inferior maxilla; one of the tibia and fibula, (simplex); two of the ribs; one of the nasal bones; and one of the cranium and ribs.

## OPERATIONS.

For congenital cataract fistula in ano; two cases of hydrocele; removal of index finger, with its metacarpal bone.

RETURN OF SICK IN THE MARINE AND EMIGRANT  
HOSPITAL, QUEBEC, FROM THE 1<sup>st</sup> TO THE  
30<sup>th</sup> NOVEMBER, 1845.

J. E. D. LANDY, House Surgeon.

## DISEASES AND INFIRMITIES.

Febris, . . . . .	13	Phlegmon, . . . . .	1
Variola, . . . . .	5	Syphilis, . . . . .	5
Bronchitis, . . . . .	1	Tumor, . . . . .	7
Catarrhus, . . . . .	3	Strictura Urethræ, . . . . .	1
Rheumatismus, . . . . .	2	Fractura,† . . . . .	3
Diarrhœa, . . . . .	4	Contusio, . . . . .	5
Cynanche, . . . . .	1	Vulnus, . . . . .	2
Hysteria, . . . . .	1	Abcessus, . . . . .	1
Hydrops, . . . . .	2	Ustio, . . . . .	2
Hernia, . . . . .	1	Subluxatio, . . . . .	5
Aphalalgia, . . . . .	1	Prolapsus Ani, . . . . .	1
Pertussis, . . . . .	1		
Parturitio, . . . . .	1	Total, . . . . .	59

## NUMBER OF PATIENTS TREATED DURING THE MONTH OF NOVEMBER,

Remained, . . . . .	48	Discharged, . . . . .	78
Since admitted, . . . . .	59	Died, . . . . .	3
		Remaining, . . . . .	26
Total, . . . . .	107	Total, . . . . .	107

\* Oblique Inguinal.

† One of the humerus, one of the scapula, and one compound of the finger.

## OPERATIONS.

One for the amputation of a leg; one for strangulated hernia; one for taking up the femoral artery; one for ascites; one for the removal of tumors; and several smaller operations.

BILL OF MORTALITY for the CITY of MONTREAL, for the month ending DECEMBER 31, 1845.

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,	Measles, .....	75	62	137	30	79	20	7	.	1					
	Scarlatina, .....	.	1	1	1										
	Small Pox, .....	.	2	2	.	1	.	1							
	Whooping Cough, .....	3	2	5	.	4	1								
	Fever, .....	16	16	32	7	11	3	5	.	3	1	1	.	1	
DISEASES OF BRAIN AND NERVOUS SYSTEM,	Convulsions, .....	1	4	5	3	2									
	Dentition, .....	1	4	5	3	2									
	Delirium Tremens, .....	2	.	2	.	.	.	.	.	1	1				
	Paralysis, .....	3	.	3	.	.	.	.	.	.	.	1	1	1	
	Apoplexy, .....	1	.	1	.	.	.	.	.	.	.	1			
DISEASES OF THE RESPIRATORY ORGANS,	Abscess in Head, .....	.	1	1	.	1									
	Hydrocephalus, .....	2	1	3	2		1								
	Consumption, .....	18	15	33	11	6	.	.	1	2	4	2	5	2	
	Croup, .....	1	3	4	1	2		1							
	Pleurisy, .....	1	.	1	.	.	.	.		1					
DISEASES OF ABDOMINAL VISCERA,	Dyspepsy, .....	4	.	4	1	.	1	.					1	1	
	Jaundice, .....	.	1	1	.	.	.	.							
	Intern. hæmorrh., .....	.	1	1	.	.	.	.			1				
	Ague or Infirmary, .....	3	5	8	.	.	.	.						1	7
	Erysipelas, .....	1	.	1	.	.	.	.						1	
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,	White Swelling, .....	.	1	1	1										
	Inflammation, .....	.	4	4	.	.	1	.		2	1				
	Intemperance, .....	1	.	1	.	.	.	.			1				
	Cancer, .....	.	1	1	.	.	.	.				1			
	Still-born, .....	9	2	11	.	.	.	.							
	Accidental, .....	2	.	2	.	1	.	.				1			
Total, .....		144	125	270	60	109	27	14	1	9	10	6	8	7	8

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR DECEMBER, 1845.

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+21	+25	+21	+23.	30.13	29.87	29.54	29.85	W.	N. E.	N. E.	Snow	Snow	Snow
2,	" 10	" 15	" 2	" 12.5	29.72	29.92	30.23	29.96	W.	W. N. W.	N. W.	Fair	Fair	Fair
3,	" 7	" 5	" 1	" 1.	30.47	30.46	30.44	30.46	W.	W.	W.	Fair	Fair	Fair
4,	+2	" 15	" 15	+8.5	30.23	30.07	29.72	30.01	N. W.	N. W. by N.	N. W.	Fair	Snow	Fair
5,	" 16	" 24	" 15	" 20.	29.48	29.69	29.83	29.67	N. W.	W.	W. by N.	Snow	Fair	Fair
6,	" 10	" 20	" 13	" 15.	30.14	30.22	30.33	30.23	N. W.	W.	W.	Fair	Fair	Fair
7,	" 4	" 21	" 21	" 12.5	30.45	30.38	30.22	30.35	W. N. W.	W.	W.	Fair	Fair	Fair
8,	" 23	" 28	" 26	" 25.5	30.13	30.00	29.82	29.98	W.	W. by S.	S. W.	Fair	Fair	Fair
9,	" 26	" 34	" 30	" 30.	29.72	29.59	29.50	29.60	S. W.	S. W.	S. W.	Fair	Snow	Snow
10,	" 16	" 12	" 6	" 14.	29.75	29.86	29.94	29.85	W.	N. W. by W.	N. W. by W.	Fair	Fair	Snow
11,	" 14	" 12	" 7	" 1.	30.25	30.34	30.43	30.34	N. W.	N. W.	N. W.	Fair	Fair	Fair
12,	" 13	" 6	+2	" 3.5	30.57	30.61	30.66	30.61	W.	W.	W.	Fair	Fair	Fair
13,	" 7	" 5	" 5	" 0.	30.65	30.56	30.40	30.54	W.	W.	W.	Fair	Fair	Fair
14,	+17	" 23	" 23	+20.	30.15	30.02	29.96	30.04	S. W.	S. W.	W. N. W.	Snow	Snow	Fair
15,	" 21	" 31	" 20	" 26.	29.90	29.87	29.83	29.87	N. W. by W.	N. W.	W.	Cloudy	Fair	Fair
16,	" 18	" 29	" 18	" 20.5	29.86	29.95	30.00	29.94	E. N. E.	E. N. E.	N. W.	Fair	Fair	Fair
17,	" 8	" 27	" 20	" 17.5	30.07	29.99	29.86	29.97	N. W. by W.	S. W. by W.	S. W.	Fair	Fair	Cloudy
18,	" 22	" 32	" 33	" 27.	29.83	29.79	29.73	29.78	W. N. W.	S. W. by W.	S. W.	Snow	Snow	Cloudy
19,	" 26	" 20	" 18	" 23.	29.72	29.78	29.90	29.80	S. S. W.	S. S. W.	W. S. W.	Snow	Fair	Fair
20,	" 18	" 22	" 14	" 20.	30.10	30.05	29.98	30.04	S. W. by S.	S. W. by S.	S. W. by S.	Fair	Fair	Fair
21,	" 9	" 15	" 6	" 12.	29.92	29.85	29.88	29.85	S. W. by S.	W. by S.	W.	Snow	Cloudy	Fair
22,	" 3	" 10	" 4	" 3.5	29.82	30.06	30.18	30.02	S. W. by S.	S. S. W.	W. by S.	Fair	Fair	Fair
23,	" 8	" 11	" 8	" 1.5	30.32	30.40	30.47	30.39	S. W. by S.	S.	S. by W.	Foggy	Fair	Foggy
24,	" 18	" 18	+5	" 0.	30.49	30.46	30.42	30.46	S. W. by S.	N. E.	N. F.	Fair	Fair	Fair
25,	+7	" 16	" 16	" 11.5	30.29	30.12	30.13	30.18	S. W. by S.	S. W.	S. W.	Snow	Snow	Snow
26,	" 14	" 20	" 7	" 17.	30.23	30.24	30.28	30.25	S. S. W.	S. S. W.	S. W. by S.	Fair	Fair	Fair
27,	" 15	" 22	" 24	" 18.5	30.19	30.06	29.84	30.03	S. W. by S.	S. W.	S. W.	Fair	Fair	Snow
28,	" 21	" 28	" 23	" 24.5	29.94	29.94	29.98	29.95	S. W. by S.	W.	W. by S.	Fair	Fair	Fair
29,	" 20	" 28	" 26	" 24.	29.84	29.78	29.70	29.77	W.	W.	W.	Fair	Rain	Fair
30,	" 24	" 25	" 16	" 24.5	29.82	29.93	30.10	29.95	W.	W.	W.	Fair	Fair	Fair
31,	" 8	" 15	" 4	" 11.5	30.30	30.36	30.44	30.37	W.	W.	W.	Fair	Fair	Fair

Therm. } Max. Temp., +34° on the 9th.  
 Min. " —18° " 21th.  
 Mean of the Month, +14° 93

Barometer, } Maximum, 30.66 Inches on the 12th.  
 Minimum, 29.48 " " 5th.  
 Mean of Month, 29.78 Inches.

# MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—DECEMBER, 1945.

Latitude 43°. 39' 4. N. Longitude 79°. 21' 5. W. Elevation above Lake Ontario, 108 Feet.

Day.	Barometer at Temp. of 32°.				Tension of Vapour.			Temperature of the Air.				Humidity of the Air.				Wind.			Snow.	WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.			10 P.M.	
1,	29.755	29.530	29.579	29.613	.090	.096	.076	.085	18.8	22.1	16.2	18.7	.85	.79	.79	.80	N.N.E.	N. by W.	N.W.	1.2	Slight snow from 3 a.m. to 4 p.m.	
2,	29.755	29.826	29.913	29.868	.050	.083	.025	.051	9.4	17.4	0.8	8.2	.70	.82	.51	.86	N.W.	Calm.	Calm.	0.5	Ci'ed am. Ci'r from 6 pm to midn	
3,	29.962	29.868	29.743	29.811	.048	.080	.110	.092	10.2	19.1	23.4	20.3	.64	.75	.85	.78	N. by E.	N.E. by N.	E.S.E.	0.2	Ci'r am. Slight sn. 9 am. to 3 pm.	
4,	29.536	29.421	29.326	29.383	.129	.148	.130	.132	26.9	29.2	25.2	26.1	.87	.92	.93	.92	S.S.E.	W.S.W.	N.W.	0.5	Slight sn. till noon. Rem't clouded.	
5,	29.366	29.523	29.731	29.609	.085	.092	.104	.102	21.4	24.8	21.1	22.8	.71	.67	.89	.81	W.	W. by S.	W.	—	Part. cl'd. Part. of an occasionally	
6,	29.915	29.945	30.065	29.932	.094	.108	.093	.107	21.7	26.2	20.0	23.6	.78	.74	.82	.82	W. by S.	W.S.W.	Calm.	0.1	Gen'ly clouded, particles of snow.	
7,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N.	Calm.	—	0.2	Partially clouded.	
8,	29.669	29.481	29.402	29.475	.123	.168	.144	.148	24.6	32.0	29.6	29.0	.92	.94	.89	.93	N.	Calm.	Calm.	—	Ci'p'd. all day. Slight sn. 6 to 10 am.	
9,	29.317	29.234	29.272	29.310	.144	.153	.140	.139	30.3	32.6	29.6	28.6	.84	.83	.85	.87	S.W. by W.	SW by W.	W.	.075	Clouded. Slight sn. occas onally.	
10,	29.573	29.581	29.661	29.647	.075	.068	.071	.065	15.0	17.9	15.1	14.1	.83	.66	.78	.73	W.	W. by S.	W.	—	Mostly clear. Sift sn. occasionally.	
11,	29.904	30.012	30.088	30.040	.032	.052	.038	.034	3.6	9.0	6.4	5.9	.57	.74	.61	.55	N.	N.	N.	—	Generally clouded.	
12,	30.188	30.181	30.152	30.168	.019	.095	.083	.073	1.6	19.8	19.1	15.0	.42	.85	.78	.74	Calm.	E. by S.	E. by S.	—	Generally clouded.	
13,	30.041	29.880	29.720	29.800	.069	.155	.149	.142	13.2	30.3	32.3	29.3	.82	.91	.81	.85	E.	E.	S.E. by S.	—	A.m. clear. P.m. mostly clouded.	
14,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N.	—	N.	—	Clouded, slight rain noon to 1 p.m.	
15,	29.518	29.458	29.577	29.537	.170	.136	.118	.140	31.1	31.4	27.2	29.1	.98	.77	.79	.87	N.	N. by W.	N.N.W.	—	Gen'ly ci'p'd am. Ci'r from 6 pm.	
16,	29.668	29.672	29.708	29.666	.103	.156	.140	.134	21.9	34.4	28.1	28.2	.85	.78	.90	.85	N.N.W.	W.N.W.	W. by S.	—	Clear a.m. Light clouds p.m.	
17,	29.599	29.403	29.350	29.431	.148	.168	.183	.167	29.8	37.0	36.0	34.6	.89	.77	.87	.80	S.W.	S.	S.S.W.	—	Gen'ly clouded. Slight rain 5 pm.	
18,	29.374	29.313	29.217	29.326	.135	.141	.162	.118	32.8	34.6	31.3	28.2	.72	.70	.93	.74	S.S.W.	S.S.W.	S.W.	—	Gen'ly ci'p'd. Sift sn. 10, 11 pm.	
19,	29.385	29.435	29.583	29.500	.041	.058	.047	.048	7.1	12.0	10.3	10.0	.62	.72	.63	.65	W.S.W.	S.W.	W.S.W.	—	Gen'ly ci'p'd. Sift sn. 7, 8 am. & 11, 12 pm.	
20,	29.694	29.667	29.651	29.657	.045	.061	.040	.057	8.6	15.3	10.0	11.7	.65	.65	.53	.71	S.W. by W.	W.	N.W.	0.1	Gen'ly ci'p'd. Sift sn. 7, 8 am. & 11, 12 pm.	
21,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Overcast. Haze. Sift sn. 4 pm. to midn
22,	29.606	29.653	29.780	29.710	.055	.088	.064	.069	10.6	20.2	12.8	14.2	.74	.78	.76	.78	Calm.	Calm.	Calm.	0.4	Generally overcast.	
23,	29.856	29.890	29.955	29.883	.067	.113	.103	.095	15.8	24.4	20.2	20.6	.72	.84	.91	.82	Calm.	Calm.	Calm.	—	Partially clear a.m. Clouded p.m.	
24,	29.947	29.912	29.864	29.912	.084	.122	.114	.102	18.7	27.6	25.1	21.6	.80	.80	.82	.83	Calm.	Calm.	N.E. by N.	—	Densely clouded all day.	
25,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Snowing a.m. Clouded p.m.
26,	29.974	30.003	29.988	29.985	.070	.092	.069	.069	15.3	21.6	14.4	14.9	.77	.77	.79	.75	N.N.W.	W.N.W.	Calm.	0.5	Mostly clear all day.	
27,	29.856	29.578	29.566	29.598	.077	.112	.119	.124	15.9	28.6	28.2	26.7	.81	.71	.76	.82	S.W.	S.W.	S.W.	—	Clear a.m. Gen'ly clouded, p.m.	
28,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Clouded all day.
29,	29.426	29.388	29.486	29.457	.183	.185	.166	.161	32.8	35.6	32.9	33.4	.98	.89	.89	.86	W.	W.S.W.	Calm.	—	Densely overcast all day.	
30,	29.571	29.680	29.823	29.743	.126	.135	.099	.105	27.6	27.0	22.7	23.1	.82	.90	.79	.81	W.	N.N.W.	Calm.	—	Overcast. Sift particles of snow	
31,	29.986	29.968	29.857	29.912	—	—	—	—	9.8	23.7	25.8	21.7	—	—	—	—	Calm.	E.	E. by S.	—	Ci'r till 8 a.m.; rem't mostly ci'p'd	
Mean	29.709	29.673	29.694	29.680	.090	.115	.103	.102	18.1	25.1	21.6	21.5	.77	.79	.80	.80	—	—	—	—	—	

\* Melted Snow received in Rain Gauge.

Proportion of Wind from each Quarter—				Proportion of Calm, ..			
N.W.	..	..	..	N.W.	..	..	..
N.E.	..	..	..	N.E.	..	..	..
S.W.	..	..	..	S.W.	..	..	..
S.E.	..	..	..	S.E.	..	..	..
Calm.	..	..	..	Calm.	..	..	..

Under the head of "Tension of Vapour," is given the elastic force of the aqueous vapour in the atmosphere at each observation, in decimals of an inch of mercury, or the proportion of the barometric pressure due to its presence. Under the head of "Humidity of the Air," is given the proportion the aqueous vapour bears to the quantity the air is capable of retaining at the existing temperature, saturation being represented by 1.00. The barometric pressure is Standard Incentimeters. The Rain Gauge 27 feet above the soil.

The means entered are the means by 24 hourly observations, from 9 a.m. to 9 a.m. The quantity of Rain received each 24 hours, is noted at 9 a.m., and is marked in inches.

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**CASE OF ANEURISM BY ANASTOMOSIS OF THE SCALP, WITH OBSERVATIONS.**

By WILLIAM FRASER, M.D. Montreal.

(For the British American Journal of Medical Science.)

The aneurismal condition of the extreme blood vessels, named by the older surgical writers *nævus maternus*, is, by the moderns, still so called in its superficial forms; in its deeper seated, *aneurism* by *anastomosis*, *tumeur érectile*, *tumeur variqueuse*, *placetary tumour*, and in all its forms *telangiectasis*. Previous to the time of John Bell, the deeper forms, or such as lie beneath the skin without involving it, were neither designated by name, nor was their nature understood; they were, probably, confounded with a variety of other diseases, or described as anomalous. Mr. Bell first pointed out their distinctive properties, and denominated them *aneurisms from anastomosis*: this appellation I, on the present occasion, retain, not because I think it the most proper, but because by it the disease is best understood.

The following case of this disease is chiefly interesting in relation to the question of treatment, a question fraught with interest in an affection calculated so abruptly to bring life into imminent peril, and which cannot be justly estimated from the result of one case; therefore, after detailing my own case, I will notice those of a similar malady already published by others, so far as I know them, and from these a fair inference as to the most appropriate treatment may be deduced.

On the 19th of last June—Peter McEwan, aged 20, from Canada West consulted me on account of a tumour about the size of half a large orange, situated over the posterior and superior angle of the right parietal bone.

About twelve years' previously he fell on his back, that part of the head occupied by the tumour struck a log, which produced a bruise of the scalp; this spot became very hard, then commenced throbbing, and has been gradually enlarging; during the year preceding the above date, it had increased more than during any former one, and so troublesome had the whizzing pulsation he then experienced become, that it occasionally prevented him from sleeping; in other respects he enjoyed good health.

To the eye, pulsation in the tumour was very apparent; the scalp covering it was thinner than natural, but

not discoloured; to the ear, aided with the stethoscope, the aneurismal bruit was distinctly perceptible; to the feel it was soft, communicated a peculiar thrill to the finger, and could be nearly emptied by pressure, when the bone beneath felt deeply and irregularly indented; on removing the pressure it re-filled almost immediately. The occipital and temporal arteries on the same side were greatly enlarged, (some idea of them and the tumour may be formed from the plate,) and imparted a vibrating sensation to the finger placed over them. The bone beneath them also was channelled out, evidently by the continued stream of blood passing through the enlarged and excited vessels, having caused its absorption.

Before adopting any plan of treatment, the patient was seen by Drs. Holmes, Crawford, G. W. Campbell, and McDonnell; all agreed as to the nature of the disease, and concurred in the propriety of trying to effect the consolidation of the tumour by means of setons. Accordingly, on the same day (June 19) three small setons were passed through it.

On the 21st, passed a fourth, and two through the occipital artery, between the tumour and mastoid process.

On the 24th, passed a needle beneath the occipital artery, just where it emerges from behind the mastoid process, and twisted around it a hare-lip suture, sufficiently tight to keep its anterior and posterior surfaces in close contact, with the view of thereby producing their adhesion and its obliteration. The temporal, close to the edge of the zygoma, was treated in the same way. This had the immediate effect of arresting the strong pulsation and vibration, in both tumour and arteries, and even the bruit was but faintly perceived with the stethoscope.

25th.—Feeble pulsations again perceptible in the right temporal, and occipital. The stethoscopic bruit more distinct in the tumour; considerable irritation from setons—removed three of them; one was followed by a gush of arterial blood, which was arrested by continued pressure. No more irritation where needles have been applied than desirable. Painted tumour with iodine.

29th—Removed two more setons; hæmorrhage again



followed, which was stopped after a good deal of trouble, by continued pressure with the sponge.

30th.—The varicose appearance of the arteries had almost entirely disappeared; their course was not now perceptible. The bruit was still heard in the tumour, most distinctly so on its left side, where an enlarged branch of the left occipital entered it, and seemed its chief supply. When this branch and the temporal of the same side were sufficiently pressed upon to stop the current of blood through them, the stethoscopic bruit was no longer heard. This induced me to treat them in the same way as the right, with needles and hare-lip sutures, which completely removed the bruit for the time.

At same time I removed the sutures and needles applied to the arteries of the right side on the 24th. A jet of arterial blood followed the withdrawal of the occipital needle, which was easily stopped by pressure.

The tumour, which was now very flaccid, was emptied of blood, strapped down with adhesive plaster, and a compress containing sheet lead, and a bandage applied.

July 2.—Removed bandage, &c. Found left occipital still pervious, probably from the needle having passed through, instead of beneath, the vessel. Passed another needle beneath the artery higher up, where it was more superficial.

8th.—Removed sutures and needles applied on left side on the 30th ult., and that applied to the right occipital on the 2d instant; could feel no circulation in any of the arteries deligated.

The tumour was now much reduced in size, the whizzing noise, which had been so annoying to the patient, was gone; but though without activity, it was still higher and softer than the neighbouring scalp. In order to reduce it still farther, I kept setons in it till the 24th August, and from that date to the 27th September, when the patient left for home, I had it constantly compressed by adhesive plaster, sheet lead, and a bandage. On his leaving I could perceive no bruit in the remains of the tumour, and it was daily decreasing in size, and increasing in firmness. I had, therefore, every reason to expect a radical cure, and had this not been the case, its remains might, at this time, have been excised without much risk of uncontrollable hæmorrhage. But to this proceeding, even if it had been deemed necessary, there was, at least, one substantial objection; I mean the state of the bone. To have cut down upon and exposed a bone in the state in which I conceive it was in this case, would be a step which, I presume, no prudent surgeon would willingly have undertaken. Besides this, some of the gentlemen who saw the case were of opinion that the disease had originated in the bone itself: to this point I will again revert.

I may observe, that during the period of the above treatment, the patient's general good health was very little affected; he was not confined to the house for a single day. On the 4th of November last he wrote me that he felt neither pain nor pulsation in the remains of the swelling, which was then about as low as the rest of the scalp, and pretty firm, though not so firm as the rest of the head.

The following published cases of a similar disease, six in number, will illustrate the various plans of treatment adopted for its cure. The first is recorded by Pelletan, in the second volume of his *Clinique Chirurgicale*.

CASE I.—"Catherine Micat, aged 18; entered the Hotel Dieu in September, 1805, on account of a tumour which occupied the whole of the temporal region, and appeared to be composed of arteries enormously dilated. The ear was red, large and agitated throughout by pulsations synchronous with those of the heart. At the top of the helix was a cicatrix which gave way at the slightest touch, and the crevice resulting from its rupture, furnished a brisk and obstinate hæmorrhage; and this was renewed at every attempt to change the dressings. Pressure applied over the temporal artery arrested the movement and pulsation in the anterior part of the tumour. Permanent compression over this vessel was therefore commenced as a means of cure, but it was found to be too painful to be continued. M. Pelletan next undertook to secure the temporal and occipital arteries: but in the operation the temporal artery was transfixed, and only partially taken up; and in passing the needle under the occipital artery, blood gushed out from both extremities of the puncture; but after dividing the integuments over it this was secured, and pulsation ceased in the tumour. Compression was again employed, but it produced a slough, in consequence of which it became necessary to dress the part oftener than usual; at each dressing the hæmorrhage recurred, and the pulsation though less strong than usual, was renewed. In the course of treatment constitutional symptoms ensued, erysipelas appeared on the face, an abscess formed in the centre of the tumour, and another over the sternum; the occipital artery bled frequently; and finally at the end of two weeks from the operation, the patient died."—*American Journal of Medical Science*, May, 1839.

CASE II.—This case occurred in the practice of Mr. Wardrop, and is thus described in the *Lancet*.

"—, æt. 22, of a full and powerful habit of body. On the left side of his head, covering a portion of the frontal, parietal, and temporal bones, is a very large pulsating tumour, whose surface is extremely soft and very irregular, forming many lobules of various sizes and position, and resembling in appearance, three large varicose tumours which are occasionally found in the course of the saphena vein of the thigh. The pulsation is distinct throughout every part of the tumour, which can easily be emptied of its contents by pressure. The trunk of the temporal artery, and its anterior and posterior branches, are uncommonly enlarged, and pulsate with remarkable vigour. The two latter terminate suddenly in the swelling, which occupies the usual position of the middle temporal artery. The posterior auricular artery and the occipital, as well as a branch from the temporal vessels of the opposite side, are wonderfully enlarged, and they communicate abruptly with the disease. All these arteries have attained such a size that their situation is evident to the eye. On emptying the tumour of its contents, the cranium below is found to have undergone a remarkable process of absorption, particularly at those points where the tumour has attained the greatest bulk. It must at many places, have become exceedingly thin. The integuments covering the most prominent portion of the swelling, have become very much attenuated, and it is evident that ulceration of them must soon be the consequence of the distention. Over the trunk of the temporal artery is a long cicatrix, the result of an operation which was performed for the ligation of that vessel. The patient complains of frequent most distressing pains in his head, in other respects, he enjoys excellent health. The complaint commenced twelve years ago, after

the receipt of a blow, and has increased gradually. Two months since, a Mr. Babington applied a ligature to the temporal artery, but they did not in any way check its progress."—No. 211, p. 762.

Mr. Wardrop tied the common carotid immediately, upon which the tumour ceased to pulsate, but did not contract.

Secondary hæmorrhage occurred on the fourth day after the operation, and required the most active exertions of Mr. Wardrop and his assistants to prevent its proving fatal. The patient escaped this danger, but the tumour suffered no amendment; and he died from some other cause, in the course of two months.

CASE III.—Is related by Dr. McLauchlan, in the second number of the *Glasgow Medical Journal*.

"W. Maclure, æt. 31, a discharged soldier. Soft, puffy, pulsating, and somewhat elastic swellings, of a varicose appearance, were found to occupy the course of the temporal, posterior auris, and occipital arteries, and their principal branches, each branch terminating by a tortuous extremity. These swellings could be made to disappear partly on pressure, but on its removal they speedily regained their former volume. They pulsated throughout their whole extent, and the pulsations were synchronous with those of the heart. By pressing on the common carotid, the pulsations ceased all along the swellings; and by interrupting the flow of blood through the temporal or posterior auris, the throbbing was interrupted in corresponding parts of the tumour. They were not painful on being handled, but he complained much of the torture he had experienced for the last two months from the throbbing, which often deprived him of rest for nights together, and, as he said, made his existence miserable to him. The integuments covering the swellings were of their natural colour; only at those points which were most prominent, they had a slightly bluish red tinge. About ten years previously he had the temporal artery opened for an attack of ophthalmia. A small aneurismal tumour formed at the point of incision for the cure of which the artery was cut across lower down; but this not succeeding, the vessel was again exposed and the ligature applied. The little tumour disappeared only for the time; on its return it was but small, gave him no uneasiness, and although he served as a soldier for five years afterwards, he never complained of it to his surgeon."

Dr. McLauchlan tied the temporal artery, upon which the anterior and central portions of the tumour ceased to pulsate, and felt flaccid and doughy. But being apprehensive, from the extreme thinness and expansion of the coats of this vessel, that the obliterating process would not be effectually and safely performed, he, on the day following, tied the common carotid. The patient was soon afterwards seized with inflammation of the chest, which, notwithstanding the most free depletion and other active measures, proved fatal, on the fourth day after the operation.

CASE IV.—Was published by Mr. Syme, in the *Edinburgh Medical and Surgical Journal*, No. xcvi. in connexion with the preceding cases.

"About the middle of July, 1824, I was consulted by Mrs. T., aged 59, on account of a tumour about the size of a large gooseberry, which was situated behind the right ear, over the mastoid process. I at first sight conceived this to be a common encysted tumour, which it exactly resembled, but upon compressing, discovered that the disease was of a very different nature. It readily yielded to the fingers and in its place there could be felt a considerable depression. So soon as the pressure was removed, it immediately filled again, and if the finger was gently applied while this took place, a jet of blood could be felt issuing from the

bottom of the tumour, and the patient heard such a whizzing noise, that she could hardly be persuaded the bystanders also did not perceive it. Below the tumour I felt the posterior auricular artery greatly enlarged, and throbbing with violence; when this vessel was compressed the tumour became flaccid. The patient complained of pain and noise in the swelling, the latter being often so distracting as to deprive her of sleep.

The swelling was first noticed after an accouchement about ten years ago. It had increased very gradually until of late, when its progress was more rapid. Several years ago she asked the opinion of several physicians and surgeons, who recommended pressure, which was accordingly tried, but without any advantage."

Mr. Syme tied the posterior auris a little below where it entered the tumour, which became flaccid and the dilated vessels disappeared.

On the eighth day after the operation, happening to press on the tumour, blood trickled away from the side of the ligature which ceased on applying pressure, it recurred twice in the twenty-four hours on the following day, and was arrested by the same means.

"For some weeks after the operation, the tumour remained small and flaccid, but when the patient resumed her ordinary diet and exercise, it began to resume its former condition. It was moderately tense; and though no throbbing in it could be felt with the finger, Mrs. T. complained of the noise and pain which had distressed her previously in a degree comparatively slight, but sufficient to disturb her repose. No appearance of the varicose dilatation of the artery could be perceived.

Finding that the uneasy symptoms continued to increase, and being anxious to take advantage of the command which had been obtained for the present over the disease by obstructing the principal supply of blood, I determined to take an effectual step for the patient's relief.

On the 29th of October, assisted by Professor Ballingall, I cut directly through the long direction of the tumour, which then showed itself to be composed of large irregular cells, invested by a firm capsule. While Dr. B. compressed above and below the tumour, I dissected it out, and then attempted to tie the vessels, but finding this very difficult, I adopted the suggestion of Dr. B., and included them in ligatures by means of a small curved needle. The ligature being drawn, the hæmorrhage ceased. I then filled the wound with dry caddis, and applied a firm bandage about the head. The patient did not experience the smallest inconvenience from the operation, excepting the pain immediately attending it. The ligature separated in about a fortnight, and the wound is now completely healed."

CASE V.—Is recorded by Dr. Gibson, of Philadelphia in his *Institutes and Practice of Surgery*, vol. II. p. 397.

"Elizabeth Laush, a married woman, twenty five years of age, residing in the neighbourhood of Reading, came to Philadelphia in the month of April 1823, anxious to obtain relief for a very large pulsating tumour, which nearly covered the right side of her head, and sometimes bled so profusely from numerous ulcerated spots on its surface, as frequently to endanger her life. This

tumour had existed from infancy, but its increase was so gradual, and the pain attending it so inconsiderable, as to give her little uneasiness. After her marriage and especially during her second pregnancy,—in which she was four months at the time I saw her, the growth of the swelling was so rapid, its pulsation so alarming, and the hemorrhages from it so frequent and debilitating, that she was prepared to submit to any operation I might propose for her relief.

"My first object was to cut off temporarily the chief supply of blood to the tumour. With this view I made several incisions, each about an inch long, through the scalp, and at some distance from the margin of the tumour, and tied the chief branches of the temporal and occipital arteries, many of which were enlarged the size of the common carotid. Having in this way encircled the diseased mass, I had the satisfaction to observe the pulsation diminish, and the tumour partially to shrink, the hemorrhage, also, from the surface had ceased. A slight erysipelas of the scalp followed the operation. This occasioned a week's delay; in the meantime the blood was evidently finding its way through the anastomosing vessels to the tumour. An incision was made about two inches long by a single stroke of the knife, through the integuments to the bone, commencing near the back part of the ear, and mid way between the edge of the tumour and the line at which the arteries were taken up in the first operation. An incredible quantity of blood issued in a moment from every part of the wound; in a few moments, however every vessel was secured. By this time the patient was so extremely faint, as to render it impossible to proceed farther, indeed, many of the spectators supposed her to be dying. Without delay, therefore, she was conveyed to bed, and the wound dressed by interposing lint between its edges to prevent their reunion. In ten or twelve days the patient had so far recovered her strength as to enable her to submit to a farther incision of the scalp commencing at the place where the last operation had terminated. This operation was also continued so long as the patient could bear it, or as was deemed prudent. Lint was then placed in the wound, and the patient put to bed, and carefully nourished for a fortnight, at which time the third and last operation was performed—by dividing the remaining portions of the integuments, and removing the tumour from the bone. This was accomplished with comparative facility, the tumour being by the preceding operations nearly drained of its blood, and almost insulated. Care was taken in separating the diseased mass not to remove the pericranium; the bones, therefore, notwithstanding a great portion of the parietal and occipital was exposed did not exfoliate, but were covered in a few days by florid and healthy granulations, the edges of the wound gradually approximated, and were so far closed in four or five weeks, as to enable the patient to return to the country, where in a little longer time her health was perfectly re-established, and at the end of the usual period, she was delivered of a promising son."

CASE VI.—Is published by Dr. Easdaile, in the Indian Medical Journal.

"Madub, an untied prisoner aged 30, of slender make, but healthy looking, admitted into Hospital 25th March, 1844. A soft, elastic pulsating, irregular swelling occupies the head from the left temple to the right ear; at the crown of the head it shoots up into a conical tumour which pulsates violently, and the skin is thin, red and very tender to the touch. All the arteries of the scalp, on the left side are greatly enlarged and beating strongly. The temporal is as large as a goose quill, and whizzes under the finger, the occipital and auricular arteries are equally active. The varicose veins form a cluster of grape-like tumours, and discharge themselves chiefly by the auricular vein, which is of a great size; when this is stopped the whole scalp whizzes under the hand. The arteries on the right side are also very active, especially the occipital, and it is to be feared that the disease has extended to them, but it may be local excitement only. It commenced six months ago, by the patient's account, but probably sooner. Its progress has been so rapid, however, and the present state is so alarming, the integuments being on the point of bursting, that an operation is absolutely necessary to save his life."

On the 31st March, Dr. Easdaile tied the common carotid artery.

On the 13th April, (on which day the case is repor-

ted), the ligature was gone, the swelling was daily decreasing, the integuments were quite lax, and the supply of blood from the right side sufficiently interrupted—the excitement of the arteries was going off, and a radical cure was expected.

The first point in M'Ewans case on which I will remark is the state of his cranium beneath the tumour. Were the irregularities felt in it produced by the tumour, or was the bone the original seat of the disease? It appears to me that the state of the bone was an effect of the disease, for the following reasons:—1. Because it was deeply channelled beneath the course of the enlarged arteries, as well as beneath the tumour, and that, consequently, it is but fair to infer that like causes produced like effects. 2. Because other tumours, with far less excitement, produce the absorption of bone. 3. Because it is doubtful whether this disease ever originates from bone.

The question as to the tissues from which true *aneurism* by *anastomosis* originates is one of importance, and has been so carefully and so well considered by Dr. Watson, of New York, in his observations on the disease, that in lieu of any remarks of my own I here quote his. "Breschet" and others, admit that the disease under consideration, may manifest itself in almost every tissue of the body. "It is developed," says Dupuytren, "in all parts of the body, but most frequently in the lips; doubtless, in consequence of their spongy and vascular structure. It has been met with on the arm, fore arm, thigh, scalp, ear, cheek, and organs of generation; in the tissue of the skin, in the muscles, the periosteum, the bones, the kidneys, the liver, &c."† One case is recorded by Cruveilhier, and another by Pelletan, in which this disease is said to have originated in the brain.‡

Without questioning these authorities, I must, never-

"\*Memoires de la Academie Royale de Medecine, tome III. p. 128. In his essay published in this work Breschet refers to the Répertoire d'Anatomie, tome I., for 1826, in which he records a case of this disease originating in the bone. This case I have not the means of referring to, but I am informed by my friend John Hamilton, Esq., of Dublin, that after studying Breschet's case attentively, and the cases which he quotes from Dupuytren and others, as aneurisms by anastomosis in the bone, he is convinced they were of a malignant character, "obviously fungus hematodes"—and his opinion is confirmed by a similar avowal, made to him in relation to the same cases, by Hodgson of Birmingham. The impression existing in France, even up to the present time, in relation to these two very distinct forms of disease, is sufficient to account for Breschet's misapplication of the term "aneurism by anastomosis"—and the same may also apply to some of the cases of erectile tumours of Dupuytren. Dr. Bushe, I conceive, has committed a similar error in a case which he relates as telangiectasis originating in the medullary cavity of the tibia. The case has to me more the character of the malignant fungus.—See the New York Medico Chirurgical Bulletin, vol. I., p. 55.

† Leçons Orales de Clinique Chirurgicale, tome IV., p. 51.

‡ Mentioned by Bushe. Loco citat, p. 63, from Cruveilhier, Anatomie Pathologique, tome II., p. 133, 83. Pelletan Clinique Chirurg., tome II., p. 76.

theless, observe, that in most of the cases on record, bearing intrinsic evidence of belonging to the disease under consideration, the morbid growth has had its origin either in the common integuments, the mucous membrane, or in the cellular tissue. Doubtless it may originate in other textures, as was with the case quoted from Breschet, where it commenced in the thyroid gland; but many of the cases in which it is said to have occurred in the bones, in the viscera, among the muscles, &c., are, to say the least, equivocal, and no doubt some of them were of a carcinomatous nature."—Watson on Telangiectasis, *American Journal of Medical Science*, No. 47.

The treatment of the class of aneurisms by anastomosis, to which the preceding cases belong, may be conducted on three different principles. 1. Removal of the morbid structure. 2. Diminution of the arterial supply. 3. Effecting change of structure.

Each of these plans may be executed in a variety of ways, and they may be variously combined. For instance, in cases IV. and V., the second and first were conjoined, and in my case the second and third. To attempt the first plan in such tumours as the preceding, without its being preceded by the second, might be attended with the most serious consequences—the gush of blood might prove instantly fatal. Hence the safest and best method of cutting off the arterial supply is a question of some interest. The minor operations by which this has been attempted are four in number; 1. Pressure over the arteries. 2. Taking them up. 3. Making incisions through the scalp around the tumour, and taking up the arteries. 4. With needles and sutures as done successfully in M'Ewans case. As examples of these different practices are recorded in the preceding cases, I will leave the reader to draw his own inference as to their comparative merits. When the obliteration of the feeding arteries is accomplished, by whatever means, I feel assured, that in many instances at least, further proceedings will be uncalled for.

It may be thought by some, that taking up the carotid artery would be the most effectual means of cutting off the arterial supply. But from the statistical fact that the average mortality, after ligature of this vessel, for aneurism is 1.6th,\* from the unsatisfactory result in Wardrop's case, and from the obliteration of the right occipital and temporal, in my own case, not proving sufficient to arrest the circulation in the tumour, I conceive it may be fairly deduced, that tying the carotid artery for this disease, is an operation hazardous in its consequences and uncertain in its effects. Nor is the latter inference to be wondered at, when we consider the free anastomosis which exists between the vessels of both sides of the face. Dr. Easdale's case can hardly

be said to be an exception to this rule, for it is reported on the thirteenth day after the operation, when the cure was not complete, and after which the arteries of the opposite side were likely to enlarge. There are cases where the trial of tying the carotid must be made, or the patient must be left to die, as, for instance, when the tumour is seated extensively in the fauces, velum, and roof of the mouth, but these do not come within the range of the present paper.

With regard to the third plan of treatment, I doubt not from recorded facts, that in the superficial forms of this disease it may answer well, but from what I observed in M'Ewans case, I am convinced that, in such cases as his, any attempt at this mode of treatment, without first diminishing the arterial supply, will not only prove a loss of time, but be liable to worse consequences than failure. After the arterial supply has been cut off, should the tumour still remain soft, actons may complete the cure.

Within the last few months *electro-galvanic action* has been successfully employed to effect the consolidation of aneurism, by Dr. Pétrequin, chief Surgeon to the Hotel Dieu at Lyons. Three cases have been treated by him with electricity, but two of his patients have been lost sight of, before the influence of the treatment could be duly appreciated. The following are the interesting particulars of the third case.

\*CASE.—Traumatic Aneurism of the temporal Artery. D., aged 19, a locksmith, was brought to the hospital senseless, on the 4th of August, 1845, immediately after a violent fall on the head. The lower maxilla was fractured at the symphysis and the left orbit was the seat of considerable ecchymosis. The symptoms of cerebral commotion had given way as a great measure when variola declared itself. The eruptive fever accomplished its periods in the usual manner, and it was only on September the 9th, five weeks after the accident, that Mr. Pétrequin could direct his attention towards a tumour occupying the left temporal region, and which he had noticed long before. The swelling was of the size of an almond, soft, and almost indolent on pressure; it was seated on the course of the temporal artery, and presented pulsations synchronous with those of the arteries. These pulsations ceased when pressure was exerted on the temporal artery below the tumour, and re-appeared on the pressure being removed. These signs left no doubt of the nature of the case, and aneurism of the temporal artery probably due to the injury experienced by the vessel during the accident, was diagnosed. On the 10th of September galvanic puncture was performed by the introduction of two sharp steel pins crossing each other at right angles in the tumour; the heads of the pins were then placed in communication with the wires of a voltaic pile, and a shock and a sharp pain were experienced by the patient, the pain increasing with the intensity of the electrical action. The operation lasted ten minutes and fifteen plates were employed. The pulsations gradually diminished in the tumour during the operation and at its close had entirely disappeared. No accident followed the experiment, but a solid indurated swelling took the place of the tumour, the temporal artery ceasing to beat above the aneurism, whilst its pulsations remained distinct below. On the 20th of September, absorption had achieved the cure, and neither tumefaction nor pulsations could be detected in the spot where the malady had existed. M. Pétrequin gives the following precepts, which he seems will ensure the complete coagulation of the blood contained in aneurismal tumours:—1. Compression of the artery between the aneurism and the heart during the application of the galvanic agency.—2. The pins introduced into the tumour should be numerous, cross each other

\* Medical Times, vol. XIII., p. 147.

at right angles and their surface should be protected by a coat of varnish, in order to prevent unprofitable loss of the electric fluid—3. After the operation, ice should be applied to the tumour. This is the first case on record of aneurism cured or even treated by this method, which has been of late employed in the treatment of a large number of diseases." "The coagulating influence of electricity on blood leads us to hope that it will be found as advantageous in external aneurism, and that Dr. Petrequin's case will not long remain a solitary instance of success."\*

For the practical application of this remedial agent in the treatment of aneurism, Dr. Petrequin is entitled to the gratitude of the profession, at the same time it is but right to bear in mind that the idea did not originate with him, for years ago, "it has been suggested that galvanism might be applied to the important purpose of coagulating the blood within an aneurismal tumour, and thus removing the disease without resorting to the ligature."† Should it prove as effectual in other hands as it appears to have been in the above case, it will form a new era in the treatment of the ordinary forms of aneurism, and I have no doubt can be made available in that of aneurism by anastomosis.

Great St. James Street, February, 1846.

#### EXPERIMENTS ON A FEW OF THE MINERAL WATERS OF CANADA.

By A. HALL, M.D., Lecturer on Chemistry, McGill College.

##### MINERAL SPRING AT BERTHIER.

A valuable mineral spring—valuable from its antacid properties dependant on the carbonates which it holds in solution—is met with in the neighbourhood of Berthier, a village situated at the mouth of the river of that name, and about 45 miles from this city, on the northern shore of the St. Lawrence. This spring has been known for many years back, and of such importance was it deemed, that in their deeds of concession the seignors have always held it in reserve. The spring is in reality situated on the river Bayonne, about four miles from Berthier, and at the distance of about 40 feet from its bank. The character of the country is here hilly, but the spring itself is seated on a level district. The soil is very clayey—the scenery beautiful.

In June, 1843, I received some of this water for examination, which had been sent to me for that purpose. The following is the result of the experiments instituted upon it:—

##### I. Qualitative Analysis.

1. Its specific gravity was determined to be 1.006569,
2. Upon turmeric paper no change was produced; litmus was faintly reddened, its blue being restored by the application of a gentle heat, thus indicating the presence of a gaseous acid.
3. Barytic water caused a copious white precipitate,

completely soluble in nitric acid; affording evidence of the presence of carbonic acid in quantity.

4. Lime water when added, was attended with a similar result.

A quantity of the water was now boiled, to ensure a deposition of those earthy salts which were held in solution by the carbonic acid, which after filtration afforded, with re-agents, the following results.

5. Nitrate of silver threw down a copious white precipitate soluble in ammonia.

6. The addition of chloride of barium was attended with no appreciable effect, thus indicating the absence of sulphuric acid.

7. Oxalate of ammonia threw down a white precipitate, which was oxalate of lime.

8. The addition of phosphate of soda, followed by carbonate of ammonia, with ebullition, was not found to be productive of any effect, thus negating the presence of magnesia.

9. Evaporation to dryness induced an appearance of minute crystallization. These crystals, when examined by the microscope, were cubes, and were doubtless chloride of sodium.

The precipitate of earthy salts obtained by simply boiling the water was next examined. This precipitate was found to be wholly soluble in hydrochloric acid with effervescence. To the clear solution

10. Oxalate of ammonia was added, when a white precipitate ensued, denoting the presence of lime.

11. The liquid having been freed from lime by oxalate of ammonia, was tested by phosphate of soda, and carbonate of ammonia, and boiled. A copious white flocculent precipitate ensued, indicative of the presence of magnesia.

From these qualitative experiments, we are permitted to infer the presence of the following ingredients:—

Experiment 2, 3, 4. Carbonic acid.

" 5. Chlorine.

" 7. Lime.

" 9. Sodium.

" 10. Carbonate lime.

" 11. Carbonate magnesia.

##### II. Quantitative Analysis.

1. Two fluid ounces were evaporated to dryness, with the precautions detailed in the analogous experiment on the Varennes water. The solid residuum weighed 8.9 grs.

Sixteen fluid ounces were evaporated to four ounces. The earthy salts which precipitated were collected, and finally dissolved in hydrochloric acid.

2. To this solution oxalate of ammonia was added, and the oxalate of lime which fell, being collected and carefully dried, was found to weigh 3.82 grs. This was

\* Medical Times, vol. xiii. p. 147 and 148.

† Apjohn Cyclopædia of Pract. Med., Art. Galvanism.

heated to redness in a platinum crucible, and the carbonate of lime, into which it was converted, was found to weigh 2.30 grs., yielding a proportion of 0.28 of carbonate of lime for every two ounces of the water.

3. After the precipitation of all the lime, carbonate of ammonia was added to the filtered liquor, afterwards phosphate of soda, and the whole submitted to gentle ebullition. The ammonio-phosphate of magnesia obtained weighed 11.53 grs., containing 1.695 magnesia, equivalent to 0.21 grs. for each two ounces of the water, giving us a proportion of 0.43 grs. of carbonate of magnesia.

4. To half a fluid ounce of the concentrated water, nitrate of silver was added. The precipitate weighed, after fusion, 19.65 grs., equivalent to 4.85 grs. of chlorine for two ounces of the water.

5. One ounce as above was precipitated by oxalate of ammonia. The oxalate of lime, collected on a weighed filter, weighed nearly 0.5 grs., equivalent to 0.17 lime for the concentrated water experimented on, or 0.08 grs. for every two ounces of the natural water, affording 0.05 grs. of calcium.

6. One half-ounce concentrated as above, after having been first treated by oxalate of ammonia to precipitate all the lime, was then gently evaporated to dryness. The cubic crystals which were thus obtained, weighed 8.04 grs., equivalent to 3.19 grs. sodium, for two ounces of water.

7. Two ounces of the water in its natural state were precipitated by barytic water. The precipitate consisted of carbonates of baryta, lime, and magnesia, and weighed in the aggregate 4.91 grs. Deducting from this the weight of the carbonates of lime and magnesia, which have been previously ascertained, will leave us 4.20 grs. as the weight of the carbonate of baryta, the earth being supposed to be in combination with the free carbonic acid of the water, the weight of which is thus ascertained to be 0.97 grs., equal to 0.22 cubic inches, at the accustomed atmospheric pressure and temperature.

A trace of iodine was noticed in the water, but being exceedingly minute, its quantitative analysis was not undertaken.

The quantities of the different constituents in two fluid ounces of the water, are thus ascertained to be as follows:—

Carbonate of Lime, .....	0.28 grains.
Carbonate Magnesia, .....	0.43 "
Chlorine, .....	4.85 "
Calcium, .....	0.05 "
Sodium, .....	3.19 "
	8.80 grains.

These were probably combined together in the following manner:—

Carbonate of Lime, .....	0.28 grains.
Carbonate of Magnesia, .....	0.43 "
Chloride Sodium, .....	8.04 "
Chloride Calcium, .....	0.13 "

8.88 grains.

Carbonic Acid Gas free, ..... 0.22 cubic inches.

The imperial gallon will accordingly contain these constituents in the following proportions:—

Carbonate of Lime, .....	17.92 grains.
Carbonate of Magnesia, .....	21.76 "
Chloride Calcium, .....	8.32 "
Chloride Sodium, .....	514.56 "
Iodide Sodium, a trace,	

562.56 grains.

Carbonic Acid, ..... 14.08 cubic inches,

which is the means of conferring solubility on the carbonates which exist in the water, the presence of which renders this mineral spring antacid to a high degree, and adapts it to cases in which such an indication, combined with a gentle purgative effect, may be demanded.

#### CAPE DE LA MAGDELAINE CHALYBEATES.

At Cape de la Magdelaine, near Three Rivers, and not far removed from the St. Maurice Iron Works, are to be met with a couple of the most valuable chalybeate springs in this Province. They were recognised, and their therapeutic virtues acknowledged, very shortly after the settlement of this country during the time of the French, and have been honoured with more than a mere passing notice by Charlevoix in his History of Canada. Thus long known, and highly prized, I believe that at least two analyses of them have been undertaken, neither of which I have had the good fortune to obtain. In 1841 I received a quantity of these waters for examination from the late Dr. Kimber, who was proprietor of the property in which they were situated. Being ignorant of the existence of more than one spring, my experiments were conducted on the waters promiscuously, although the bottles were marked distinctly, but, (being unadvised on the subject) unintelligibly; for they were all packed together in one case, nor did I discover the error, until in the quantitative examination, finding it impossible to reconcile results which were continually varying, I mentioned the circumstance to Dr. Kimber, who informed me of the cause, but too late, as the stock of water was exhausted; nor have I since had it in my power to resume them. The following rough notes of their qualitative analysis, will serve, however, to indicate their constitution, and may serve as a guide for future experiments:—

Specific gravity, 1.00548.

1. Blue litmus paper unaffected.

2. Turmeric and red litmus altered in their colours.

3. Tincture of galls changes to a purple, gradually deepening in tint.

4. Ferrocyanide of potassium strikes a fine pale blue precipitate.

5. Sulphocyanide of potassium induces no effect, thus indicating the iron to be in a state of protoxide.

6. Ferridcyanide of potassium, after the addition of sulphuric acid, changes the solution to a deep emerald green.

7. Oxalate of ammonia—white precipitate.

8. Barytic water—white precipitate.

9. Nitrate silver—copious white precipitate soluble in ammonia.

10. After the addition of hydrochloric acid, and the precipitation of all the lime by oxalate of ammonia, the addition of carbonate of ammonia, followed by phosphate of soda or ammonia, produces an instant deposit.

Twelve ounces of the water were now boiled, and reduced by evaporation to two ounces. This was subjected to the following tests:—

Experiments 1, 2, 3, 4, 5, 6, 8, and 10, were repeated without any effect being produced.

Experiment 7, was attended with a precipitate.

Experiment 9, likewise.

Experiment 10. To another portion starch and chlorine water were added, but no alteration in colour took place after 12 hours' rest.

During the boiling a precipitate gradually formed at the bottom of the flask. This was collected, and after having been boiled in hydrochloric acid, to which a few drops of nitric acid had been added, properly diluted with water, was filtered. It was now tested in the following manner. The nitric acid was added to peroxydise the iron—

11. Sulphocyanide of potassium—a blood red.

12. Ferrocyanide of potassium—a fine blue.

13. Ferridcyanide of potassium—a deep blue.

14. Oxalate of ammonia—a copious white precipitate.

15. After filtration from the last experiment, treatment by carbonate of ammonia and phosphate of soda yielded a copious precipitate.

16. This precipitate being digested in caustic potash ley, and saturated with hydrochloric acid, the addition of carbonate of ammonia induced a slight turbidness.

From these experiments, the presence of the following ingredients is demonstrated—

Carbonic acid.

Chlorine.

Lime.

Magnesia.

Alumina.

Sodium.

Iron in a state of protoxide.

There can be no doubt that the iron is held in solution by the carbonic acid which exists in the water in quantity. I may also notice that vegetable extractive matter was also obtained, as well as a trace of silica.

Although, as I have already remarked, from the unintentional error committed in using the two kinds of water for the experiments promiscuously, no very satisfactory evidence can be deduced as to the exact composition of either, yet the result tended to demonstrate that their saline impregnation was not strong. The solid constituency of the gallion amounted only to 184.6 grs., the chief proportion of which was chloride of sodium, while the amount of protoxide of iron in the same quantity did not exceed 5 grains. These springs, however, are valuable chalybeates, and a good analysis of them is a desideratum.

Montreal, January 6, 1846.

## ANATOMY AND PHYSIOLOGY.

### STRUCTURE OF THE HUMAN PLACENTA.

In giving an abstract of the following observations on the structure of the placenta by Mr. Goodsir, it will render the subject more intelligible to divide it into three heads, as adopted in the original memoir:—

1st. Each placental tuft consists of a trunk, of primary branches, and of secondary branches or villi. Each villus is made up of the following parts. An *external* fine transparent membrane. This membrane is common to the whole tuft, passing from one villus to another, and closely covering the free surface of each. A layer of flattened nucleated cells beneath this membrane, (*external cells* of the villus,) here and there these cells are grouped together into heaps, in the centre of which is a germinal spot, which is engaged in the constant formation of new cells. It seems probable that the internal aspect of this layer of cells is lined by a fine membrane, as in the case of the intestinal epithelium. Beneath these structures, and immediately surrounding the blood-vessels within the villus, is another still finer and more transparent, but firm and strong membrane (*internal membrane* of the villus). This is readily separable from the layer of cells described: the space between them is probably occupied by a peculiar fluid. Within this membrane are the blood-vessels of the villus, consisting of one or sometimes two vessels, which form a simple or contorted loop occupying the cavity of the villus; they are derived from the umbilical arteries and veins; they differ from capillaries in their large size, and from arteries and veins in preserving the same mean diameter throughout: one such vessel occasionally passes from one to two or more villi, forming a loop in each, before it becomes continuous with a vein. Between these vessels and the internal membrane are some other cells, nucleated and highly transparent, called the *internal cells* of the villus.

2d. The substance of each tuft of the chorion is made up of nucleated cells of various sizes, containing a granular fluid. The surface of the tuft is covered by a fine membrane, which consists of flattened cells united by their edges. The free extremity of each villus of the tuft is bulbous, and consists of transparent cells arranged round a central germinal spot. These groups of cells are the active agents by which the villi grow. As gestation advances, and the allantoid becomes applied to the internal surface of the chorion, blood-vessels become developed within the villi, which then communicate with the umbilical vessels. Thus, then, the villi of the chorion from the internal (or fetal) portion of the placental villi, previously described,—the loops of vessels, internal cells, and internal membrane of which have their origin in the villi of the chorion.

3d. When impregnation has taken place, the mucous



membrane of the uterus becomes greatly developed; the epithelial or cellular secretion of its follicles becomes augmented, and the vascular network occupying the outer follicular spaces becomes increased in size and extent. By this means a new layer or membrane is produced, the *membrana decidua*, which consists of two portions, the thickened vascular mucous membrane and the non-vascular cellular substance secreted by the follicles. The former constitutes at a later period the *decidua vera*, the latter the *decidua reflexa*. As the (impregnated) ovum reaches the uterus, the developed mucous membrane or decidua begins to secrete, the os uteri becomes plugged up with a portion of the secretion, and the cavity of the uterus is filled with fluid—around the ovum this secretion consists of spherical nucleated cells, which possess the power of undergoing further development after being detached from the germinal spots or membrane of the secreting organ. These cells around the chorion of the ovum come to constitute the *decidua reflexa*. Thus the tufts of the chorion are imbedded in a mass of nucleated cells, which cells are constantly being secreted from the follicles of the uterus, and which in all probability contain within them, as they become fully developed, the nutritive materials, which the absorbing cells of the villi of the chorion are constantly taking up for the nourishment of the ovum. This cellular secretion seems thus to be to the ovum of the mammal what the albuminous fluid is to the ova of oviparous animals. As the ovum increases in size, the amount of nutriment absorbed by the cells alone, is not sufficient for its wants; the allantois becomes applied to the inner surface of the chorion, and blood-vessels become developed within the tufts and villi. The vessels of the decidua vera at the same time enlarge and assume the appearance of sinuses encroaching on the space formerly occupied by the cellular substance of the decidua reflexa, in the midst of which the villi of the chorion, are imbedded. Thus the lining membrane of the vascular system of the mother becomes the *external membrane* surrounding the villi of the placenta. It lines the whole placental cavity, passing from tuft to tuft, and villus to villus, forming in this way threads and bands of venous membrane, which are tubular and filled with cells. These cells are continuous in the one direction with *external cells* of the placental villi, and in the other with the gelatinous cellular substance constituting the *parietal portion* of the placental decidua, which is in connection with the wall of the uterus. The *central portion* of the placental decidua consists of the external cells and external membrane of the placental villi.

It appears from the above :—

1st. That the placental tufts and villi are made up on the one hand by the tufts and villi of the chorion, comprising umbilical vessels, internal membrane, and internal cells; and on the other hand by the lining membrane of the maternal vascular system, with a layer of cells beneath it, comprising the external membrane and external cells—the first portion is peculiar to the fœtus, the latter to the mother.

2d. These external cells are the remains of the decidua reflexa; they are still continuous with the cellular substance of the parietal placenta, by means of the cells filling the tubular threads of venous membrane.

3d. The function of the external cells is to secrete from the maternal blood (from which they are separated only by the external membrane) the materials of nutrition destined for the fœtus; this function is analogous to the digestive one performed by the intestinal mucous membrane in extra-uterine life.

4th. The function of the internal cells or those belonging to the fœtus is to absorb through the internal membrane the materials secreted from the maternal blood by the external cells. This matter is then taken up by the umbilical vessels and carried away for the nourishment of the fœtus. These internal cells perform a function analogous to that ef-

fecting in extra-uterine life by the absorbing chyle-cells of the intestinal villi.

5th. Hence the placenta discharges not only the functions of a lung, but also of an intestinal canal to the fœtus.—(*Anatomical and Pathological Researches*, by John and H. D. S. Goodsir.)—*Ranking's Abstract*.

## ACADEMY OF SCIENCES.

### EXPERIMENTS ON THE ABSORPTION AND REPRODUCTION OF THE HEADS OF BONES. By M. FLOURENS.

M. Flourens read a note entitled as above. The fact which he attempts to explain, is the increase of distance between the extremities of bones during the longitudinal growth of their shafts.

If we admit the ordinary theory of the growth of bones by *extension*, nothing is easier than the explanation of the fact in question. The two extremities of the bones become separated, because the body, the intermediate portion of the bone, is extended; but the extension theory is a groundless hypothesis. Bones do not grow because they are extended. They increase in thickness by *superimposed layers*, they increase in length by *juxta-posed layers*.

How is it, then, that during the elongation of bones by juxta-posed layers the heads of bones are absorbed and reformed, and always become more distant from each so long as the elongation of the bone goes on. That the fact is so is ascertained; M. Flourens has already proved the absorption, the reformation, the successive reproduction of the heads of bones, by experiments with madder; he also ascertained the mode of growth of bones during their elongation by inserting small nails in the bone, the bone grew in length, but the interval between the nails remained unchanged, hence the increase in length occurred beyond the nails. M. Flourens adopted the same method in studying the *displacement*, the *separation*, or better, the *changes* that occurs in the heads of bones during their successive absorptions and reproductions, and he now laid before the Academy, preparations of the bones experimented on.

The tibia of a young rabbit was first exhibited, in which three nails had been inserted,—one below three millimetres from the inferior epiphysis; a second above four millimetres from the superior epiphysis; the third at the level of the spine of the tibia. The experiment lasted twenty-two days. The bone, which, when the experiment commenced, was six centimetres long, had increased three millimetres when the experiment terminated. The entire increase of length had taken place beyond the nails. The nail which had been placed on a level with the spine of the tibia was now three millimetres distant from it, and as this nail had not changed its relative position to the two other nails, it was the spine of the tibia which had changed its place and been elongated from it.

In a second experiment which lasted forty-six days, the nail which had been placed on a level with the spine of the tibia was at the termination of the experiment thirteen millimetres distant from it.

Finally, in a third experiment, continued for seventy days, the nail was seventeen millimetres from the spine of the tibia.

The spine—that is to say, the head of the tibia, becomes displaced more and more distant, the longer the experiment is continued, or to speak more accurately, it is incessantly undergoing change. It is not one and the same head which is displaced, but several different heads which are formed in succession to be absorbed and then reproduced. There is then a complete mutation of bone during the entire period of its increase in length. The organ which produces the bone is the periosteum, and by it also it is absorbed.

The periosteum, which is nothing but the *external medullary membrane*, just as the medullary membrane is

simply the *internal periosteum*, enjoys, like the latter, the power of absorbing and depositing bone.

## SURGERY.

### ON THE OPERATION OF HARE-LIP, BY MONS. PAUL DUBOIS.

(Continued from p. 267.)

It has been asserted that this operation, when practised on very young children, leaves after it as evident marks as when had recourse to at a more advanced age. I do not wish to exaggerate the importance of the facts I have brought forward, and of which you have all been witnesses, but this assertion appears to me opposed to truth, and had the Academy been able to watch the modifications undergone by the cicatrix in the two youngest of the three patients I brought before it, and to observe the very rapid obliteration of the traces left by the operation, I am confident it would be of my opinion in regard to this matter. Lastly, I will examine the opinion advanced by Dupuytren in his lectures, that by operating for hare-lip, the mortality, naturally so great in the early period of life, is increased. I do not wish to misrepresent the importance and gravity of the operation in question, but I would only remark to the Academy that in none of the cases I have brought before it was the health sensibly interfered with; a trifling increase of temperature and a slight acceleration of the pulse was all that could be observed. Many operations analogous to mine have been performed, especially by M. Bonfils (de Nancy,) and in them the harmlessness of the operation was as evident as in my own; I admit that the objection of Dupuytren should not be overlooked, and on this subject I will remark that there is one thing which should not be forgotten, viz., that probably the mortality of infants affected with hare-lip is greater than that of others not so affected; in fact we know that this deformity is often accompanied by other evident defects, and it is not impossible that it is often combined with defects with which we are not acquainted, although sufficient to compromise eventually the infant's life. Certainly the injurious consequences of those last would not be increased by the operation, and in divining their existence it should be done with considerable reserve. Still, taking Dupuytren's objection in its proper sense, we may, I think, make this legitimate concession to it, that where a child is very delicate, or born before the full term, we should delay operating for a few days, and always refuse to operate at periods when erysipelas, &c., follows operations on adults.

If to the considerations which I have dwelt upon already, I add that the operation for hare-lip is exceedingly easy of performance, that the after treatment is also very simple, that union of the edges of the wound is ordinarily rapid and sure, that to all appearance the traces left by the operation are inversely as the interval elapsed since the birth of the child, that instruction is rendered more easy, and that separation of the bones, if any have existed, is more rapidly effaced, I believe that I have assigned quite enough of motives to justify operating for hare-lip in infants a few days after birth. And yet I cannot help adding another consideration, which does not seem to have made sufficient impression on professional men who have occupied themselves with this important subject. Gentlemen, to a family from its intelligence or fortune occupying a certain rank in society, the birth of a child with so evident and disgusting a deformity as hare-lip is viewed as a severe misfortune. It is a never-failing source of annoyance and grief to the mother, increased every moment by the sight of the evil, and by the painful contrast of, perhaps, another child free from such an affliction. If the speedy performance of an operation can change this painful state of mind and of the affections into one more happy, I believe that it is a real benefit superadded to the personal advantage accruing to the child.

It will, doubtless, excite surprise that in so short a period of time I should have had occasion to operate on three infants for hare-lip. It is indeed a singular coincidence, of which I can mention one more recent and still more remarkable. From the 11th to the 19th of this month (May,) we have observed at the Hospital of the Clinique, where the number of accouchements is from 80 to 100 per month, one case of hare-lip, three of club-foot, one of complete absence of the hand, and one of supernumerary fingers.

M. Husson.—Did not M. Dubois say that he would explain the greater frequency of hare-lip affecting the left side?

M. Dubois.—No. I have not pretended to explain this phenomenon. I only mentioned to the Academy the fact suggested by my cases, and which doubtless has before now attracted the attention of my colleague, M. Roux, and of other surgeons.

M. Roux.—I have had occasion to see a very large number of cases of hare-lip, and I have met them at least ten times out of twelve at the left side. This is not peculiar to hare-lip, however, all deformities are more frequent at the left than at the right side, which perhaps may result from the relative feebleness of that side.

The question raised by M. Dubois applies not merely to simple hare-lip, but also to double hare-lip. I was formerly opposed to operating immediately after birth, but my opinion within the last fifteen or twenty years has very much changed. Being often compelled by circumstances to operate early, which I did with very great apprehension, I at length saw that the results in such cases were fully as favourable as at a more advanced age. Mr. Roux then gave the particulars of ten cases operated on by him during the previous year, in order to shew that accidents are as frequent after the operation performed late as when had recourse to early. He was in favour of operating immediately where there was double hare-lip, rendering suction difficult or impossible; but, fully admitting the moral influence on the mother of the sight of the deformity, he did not think there was any good ground for haste when the hare-lip was simple.

M. Dubois was glad of an opportunity of supplying an omission which he had made from his apprehensions of being tedious. He had entirely abandoned the operations for double hare-lip in very young children. In infants such as he spoke of, facility of execution and despatch appeared to be the essentials to success, hence he had even abandoned the method of Malgaigne, which, in other circumstances, must be an improvement. But, continued M. Dubois, I wish to make another remark; I know of no sure and efficacious means of stopping hemorrhage but by bringing the whole of the edges of the wound into complete contact, and by making no wound but the paring of the edges of the lip. I never detach the lip from the gum in order to bring the edges into contact. In every case that I have met with the natural extensibility of the parts allowed coaptation to be effected without it. The bleeding surface resulting from the separation of the lip from the gum being but imperfectly applied against the gum, may, from the extreme vascularity of the gums, become a source of real danger, and in very young children will only make itself known when beyond remedy.—*Dublin Journal of Medical Science.*

### ON ABSCESS OF THE TIBIA.

By Sir B. C. BRODIE, Bart.

I shall not make any introductory observations to the course of lectures which I am about to deliver, further than these—That on this, as on former occasions, I do not pretend to give any systematic course, but to select various subjects in which, I suppose, you will feel interested, and such especially as you will find to be of importance in surgical practice. If I do not enter into the consideration of abstract questions in physiology and pathology, it is not because I regard these subjects as unimportant, but because I think it still more important that in the few lectures which I shall deliver I should contribute as much as I can towards making you useful to the public and to yourselves as good practical surgeons.

The subject that I shall take for the present lecture, is one of considerable interest, namely, the formation of abscess in the interior of the tibia.

I need not tell you that bones are organized like soft parts; that they have the same apparatus of arteries, veins, nerves, and cellular tissue, and that they have superadded to these the unorganized phosphate of lime. Having the same tissues as the soft parts, they are liable to very much the same diseases, but then the characters of these diseases, their symptoms, progress, and treatment, are much modified by the presence of the unyielding earthy material which I have mentioned. Inflammation may take place in bones, as it does elsewhere; it may go on to suppuration, and abscess may form in their interior, as it does in the interior of other organs

But there are these points of difference—an abscess formed in a bone cannot very readily come to the surface, so that it may remain pent up for an indefinite period; the soft parts will stretch, bones will not, and the consequence is, that an abscess situated in the latter is attended with much greater pain than that which occurs in the former. The patient's sufferings are consequently more severe, and they are protracted for a very much longer period.

I am not aware that I can explain to you better what I know on the subject, than by relating some of the cases on which my knowledge of it is founded.

In the year 1824, I was consulted by a young man, 24 years of age, under the following circumstances:—

There was a considerable enlargement of the lower end of the tibia, but the ankle-joint admitted of every motion, and was apparently sound. The skin was thin, tense, and closely adherent to the periosteum. There was constant pain in the part, generally of a moderate character, but every now and then it became excruciating, keeping the patient awake at night, and confining him to the house for many successive days. It made his life miserable, and his nervous system irritable: one effect of which was that it spoiled his temper, and thus produced another set of symptoms in addition to those which were the direct consequences of the local malady. The disease had been going on for 12 years. He had consulted a number of surgeons respecting it, and had used a vast variety of remedies, but had never derived benefit from anything that was done. Instead of getting better, he every year became so much worse. I tried some remedies without any advantage, and at last recommended that he should lose the limb. Mr. Travers saw him with me, and agreed in this opinion. Amputation was performed, and the amputated tibia is now on the table. You will see how much the lower end of it is enlarged, and that the surface of it presents marks of great vascularity. The bone in the preparation is divided longitudinally, and just above the articulating surface there is a cavity as large as a small chestnut. This cavity was filled with dark coloured pus. The inner surface of it is smooth. The bone immediately surrounding it is harder than natural. The examination of the limb explained all the symptoms: there was an abscess of the tibia, stretching the bone in which it was formed, or rather, if I may use the expression, trying to stretch it, and thus causing the violent pain which the patient suffered. On observing these appearances, I could not help saying, that if we had known the real state of the disease, the limb might have been saved. A trephine would have made an opening in the tibia, and have let out the matter. It would have been merely applying the treatment here that we adopt in the case of abscess elsewhere. You open a painful abscess of the arm with a lancet, you cannot open an abscess of the bone with a lancet, but you may do so with a trephine.

About two years after the occurrence of this case, I was consulted by another patient, 23 years of age, who had an enlargement of the upper end of the tibia, extending to some distance below the knee. He suffered a great deal of pain, the part was very tender, and there were all the symptoms of chronic periostitis. I made an incision over the part, dividing everything down to the bone, and found the periosteum very much thickened. There was a new deposit of bone under the periosteum, softer than the bone of original formation. This operation, as in other cases of chronic periostitis, relieved the tension and the pain, and the patient was supposed to be cured. However, about a year afterwards, in August 1827, there was a recurrence of the pain; the enlargement of the tibia, which had in some degree subsided, returned, and it continued to increase. In the enlarged tibia there was one spot a little below the knee, where there was exceeding tenderness on pressure. I need not describe the symptoms more particularly; it is sufficient to say, that they bore a very close resemblance to those in the last case; the only difference being that, as the disease had been

of shorter duration, the pain was less severe, and that the tibia was affected in the upper instead of the lower extremity. I concluded that there must be an abscess in the centre of the bone, and applied the trephine to the tender spot. I used the common trephine made for injuries of the head, which, having a projecting rim or shoulder, would penetrate only to a certain depth. However, it enabled me to remove a piece of bone of sufficient thickness to expose the cancellous structure. Then with a chisel I removed some more of the bone. Presently there was a flow of pus in such quantity as completely to fill the opening made by the trephine and the chisel. It seemed as if the bone had been, to a certain extent, kept on the stretch by the abscess, and that, as soon as an opening was made into it, it contracted and forced up the matter. The patient was well from that time; the wound healing very favourably, and he has never had any return of the disease.

Some time after this I was consulted by a gentleman who had an enlargement of the lower end of the tibia. He suffered constant pain, but every two or three weeks there was an exacerbation of it, and it was then very excruciating, almost intolerable. These attacks sometimes lasted two or three hours; sometimes one or two days. This patient when he came under my care was 34 years of age; he traced the disease back for eighteen years, and stated that it began in the following manner:—On going to bed one evening, he felt a sudden pain in or just above the ankle-joint; the next day there was a swelling in this situation, he was laid up with inflammation, and two abscesses burst in succession, but afterwards healed. He continued well for some considerable time, and then he was again seized with pain in the ankle. This pain was not constant, but occurred at intervals. Some times there were several months during which he was quite well. (These points are worthy of notice with respect to the diagnosis, as I shall show you presently.) After some years, however, the pain was never absent, and he got into the state in which he was when he sought my advice. On examining the ankle I found the tibia considerably enlarged. The motion of the joint was perfect, but there was one tender spot on the inside of the bone, that seemed to indicate the seat of an abscess. I applied a trephine here, and penetrated into a cavity large enough to receive the end of the finger. There gushed out a quantity of matter, perhaps a drachm, or more. The inner surface of the cavity was exceedingly tender, so that he could not bear the introduction of the finger, or even of a probe. On the following day there was a good deal of inflammation in the neighbourhood of the part in which the operation was performed; in the course of a few days an abscess formed, which burst externally just below the ankle, and then the inflammation subsided. The opening made by the trephine became filled up with granulations, and the wound healed favourably. This took place many years ago. I have seen the patient every now and then since, and he has continued perfectly well.

I have had two cases of this kind under my care in this hospital. One was a boy, who had a considerable enlargement of the lower end of the tibia, attended with a great deal of pain. I trephined the bone, and let out nearly half an ounce of matter. The other was a man, whose case I will give you a little more in detail. His name was Mowbray, and he was admitted in October 1838, being then 24 years of age. He had an enlargement of the upper end of the tibia, extending to the distance of 2½ inches below the knee. The circumference of the leg at this part was about an inch more than that of the leg of the other side. The skin over the enlarged bone was tense, and there was a blush of dark redness on the inside. He said that six years ago there took place some enlargement of the head of the tibia, attended with a dull pain. Leeches were applied, and some other treatment was had recourse to; I know not what. The pain continued for about six months, it then subsided, and he became quite free from it, until about three months before he

came to the hospital, when it returned, and the bone began to enlarge. The pain at the time of his admission was so severe that he could not sleep at night. It affected his health; he had lost flesh, and could take little or no food. I concluded that there was probably an abscess in the tibia, but as the disease had only been of short duration, I thought it might be better to treat it as if it were merely chronic inflammation in the first instance, having recourse to some other remedies before I performed the operation. I prescribed, therefore, calomel and opium, sarsaparilla, and iodide of potassium, one after the other. At last, there being no amendment, I applied the trephine at that spot where the bone appeared more tender than elsewhere, and thus exposed an abscess, which contained two or three drachms of pus. The relief was immediate, and soon afterwards the patient left the hospital cured.

I will mention another case. In the year 1841, a young lady came to consult me on account of pain in the lower end of the tibia. It began in the spring of 1835, when she had an attack of what appeared to be inflammation in that bone. The pain was at first confined to the lower end of the tibia, but afterwards she had, in addition to it, other pains, apparently of a nervous character, extending up the limb to the hip. She was of an hysterical constitution, which might, perhaps, make the diagnosis of the disease a little more difficult, the hysterical pain being mixed up with the other. However, I found her having occasional attacks of most severe pain in the lower end of the tibia, the bone being enlarged and tender to the touch; and, after a most careful examination, I was satisfied that there must be an abscess in the bone. Accordingly, I recommended the application of the trephine. She could not then stay in town, and, either because her surgical attendant in the country did not accord with me in opinion, or because she would not submit to it, the operation was not performed. She dragged on a very uncomfortable existence for four years more. In the interval she was married, travelled abroad, had various opinions, tried different remedies both here and elsewhere, but nothing afforded her any relief. Last August she again came under my care; the tibia was then very much enlarged; at times she was quite free from pain, at other periods she had severe attacks of it, so that she could not sleep at night. I was still of opinion that there was a collection of matter, within the tibia. Mr. Travers and Mr. Key saw the patient with me, and it was agreed that I should perforate the bone with the trephine. Accordingly I performed the operation. The bone was excessively vascular, so that there was a good deal of bleeding; and, towards the end of the operation, a quantity of what appeared to be sero-purulent fluid gushed out from beside the trephine, mixing with the blood. At the bottom of the bone removed by the instrument, there was a cavity that would just receive the end of the finger, and from which the fluid had escaped. After this she had considerable pain for some time, but evidently of an hysterical character. She went into the country, and I have been just now informed that the wound has been for some time healed, and that she is free from all her former symptoms. The piece of bone that was taken away is upon the table; it is more hard and compact than it ought to be just above the ankle, where, in the natural state, there is a mere cancellous structure. You will perceive on its under surface, one corner of the cavity in which the sero-purulent fluid was lodged.

Since I first published some observations on the subject, in the year 1832, I have the satisfaction of knowing that similar cases have been treated successfully in the same manner by other surgeons. Mr. Liston has given me an account of two such cases, which occurred in his practice, and I have in my possession the written statement of a third one, in the hospital at Lincoln.

Now what are the circumstances that would lead you to

suspect the existence of abscess in the tibia? and supposing it to be probable that such an abscess exists, how are you to proceed to relieve it?

When the tibia is enlarged from a deposit of bone externally—when there is excessive pain, such as may be supposed to depend on extreme tension, the pain being aggravated at intervals, and these symptoms continue and become aggravated, not yielding to medicines or other treatment that may be had recourse to—then you may reasonably suspect the existence of abscess in the centre of the bone. You are not to suppose that there is no abscess because the pain is not constant; on the contrary, it very often comes on only at intervals, and in one of the cases which I have related there was, as I then mentioned, an actual intermission of seven or eight months. After the disease has existed a certain number of years, indeed, the pain never entirely subsides, but still it varies, and there are periods of abatement and of exacerbation. The combination of circumstances which I have described will fully justify you in making an opening into the bone with a trephine. But how will it be if you are mistaken? This will not often occur, but if it should, really the taking out a circle of bone can be of no consequence; no injury follows the operation—it is unattended with danger. The operation is a very simple one. You expose the surface of the bone, and make a circular opening with a trephine at that part where there seems to be some tenderness and some pain on pressure. One principal thing to be attended to is, that you have a proper trephine. You do not want so large a one as for the cranium, and it must be somewhat differently constructed. Those which lie on the table are made for the purpose. One is of very small diameter, but generally it is quite sufficient. The common trephines are made with a rim or shoulder, and if there be much enlargement of the bone, they will not penetrate deep enough to reach the abscess. It is true that you may break away the bone afterwards, by means of a chisel, but the operation may be more easily performed with a trephine having no shoulder; which will at once penetrate to the abscess, however deep it may be, and render the chisel unnecessary. The after-treatment is as simple as possible. There may be some pain for a day or two, and especially, as in the case I last mentioned, if the patient be an hysterical female, there may be hysterical pain afterwards; but all that is required is to maintain the general health, and lay on some simple dressing; the bone soon granulates, the space is filled up by a sort of fibrous substance, and the wound cicatrises.

But what would happen if you were not to perform the operation? The patient may continue in torture, as I have already told you, for eighteen years, losing all the best part of his life; or a worse event than that may take place. The preparation which I show you is one of the oldest in the Museum. I attended a patient who laboured under various diseases; there were tubercles in the lungs, and vomica; dead bone in the ribs, and some other local complaints which I forget. Besides all this, he had an enlargement of the lower end of the tibia, attended with excessive pain—pain, indeed, hardly to be borne, and which came on in paroxysms lasting for many hours, and then in some degree subsiding. By and bye an abscess appeared externally, in the neighbourhood of the enlarged tibia, and then the pain ceased. Under this complication of disease the patient sank, and died; and on examining the body I found an abscess in the centre of the tibia. One effect of the abscess had been to cause absorption of the cartilage of the ankle-joint. It might have made its way into the joint, but it took another course; and if you examine the preparation, you will perceive on one side of the tibia a round aperture, by which the matter escaped, and by which the external and internal abscesses communicated with each other. It is plain from this, that such an abscess cannot exist for many years without the joint being en-



*D. Fraser's Case .*



dangered. In the year 1830, a young gentleman, about thirteen years of age, came under my care. He had just returned from Paris, where he had had an attack of inflammation of the bone and periosteum of the tibia, for which he had been under the care of the late Baron Dupuytren. The inflammation terminated in necrosis. I removed some portions of dead bone, others exfoliated without any operation, and for three or four years pieces of bone continued to come away, none of large size. Among the sinuses that were open, there was one a little below the knee-joint; I could not ascertain whether bone had come from it or not, but it closed, and the patient appeared quite well. In the year 1835 or 1836, however, I was consulted by him again, on account of some pain in the upper end of the tibia. Whenever he walked, the knee-joint swelled, becoming full of fluid. I applied a splint, kept him quiet, and he seemed quite to recover. I then left off the splint, and allowed him to walk about as usual. The result was, that in the course of two or three days the knee was again filled with synovia. On a blister being applied, the fluid was again absorbed, then reappeared again on exercise. Taking these circumstances into account, and remembering that there had been pain for some time in the upper end of the tibia, and formerly a sinus leading to the centre of the bone, I thought it very probable that the knee-joint was only occasionally affected in consequence of some disease in the neighbouring portion of the tibia. Mr. Keate and Mr. Liston saw the patient with me, and agreed in the opinion that it would be prudent to perforate the head of the tibia with a trephine. Finding, as well as I could, the most tender spot, I performed the operation, and out gushed three or four drachms of matter. There was no pain afterwards; the wound gradually contracted and healed, and now, when the patient walked, there was no swelling of the knee. The operation was performed in 1837, and I have seen the patient occasionally ever since, and know that he has had no return of the complaint. But is it possible to doubt that, if the state of things I have described had gone on, the knee-joint must have been destroyed? What would have happened if recourse had not been had to the operation? A case occurred in this hospital, not exactly similar, but sufficiently so to enable me to answer this question. A man of the name of Hendrow was admitted, in February, 1837, with the upper end of the tibia enlarged just below the knee-joint. There was an opening leading down to the centre of the bone, and a probe passed into it came in contact with a piece of bone that appeared to be dead and loose, so that it was plain that a piece of bone in the centre of the tibia had exfoliated and formed an abscess, which had afterwards made its way externally. But that which renders the case interesting as connected with the present inquiry is this, that whenever the patient took exercise there was an accumulation of fluid in the knee-joint, just as in the last case. The swelling disappeared on the joint being kept quiet; and the motion of the joint was perfect, or nearly so. It seemed plain that there was a piece of dead bone in the centre of the tibia, which was somehow or other doing mischief to the knee-joint. The course to be pursued was evident. I applied a trephine so as to enlarge the opening through which the probe had passed; it penetrated into a cavity in which there lay a piece of dead bone, about the size of a horse-bean, which was at once removed. Unfortunately, the poor fellow, whose health had been in a bad state previously, had an attack of erysipelas, and died. I took particular care to examine the knee-joint, and I have the notes of the dissection before me. The whole upper part of the tibia was increased in size from a deposit of scabrous bone on the surface. The cavity from which the dead bone had been extracted was of the size of a large cherry, had a smooth internal surface, the bone around it being somewhat harder than natural. From this a sinus extended up to

the knee-joint, and opened into it just at the anterior part of the spine of the tibia. There was no suppurative in the joint. The cartilage covering the head of the tibia in some places remained perfect, but only in narrow stripes; in other parts it had degenerated into a substance something like condensed membrane; in others the only vestige of it was a thin membranous substance—so thin that you could see the bone through it; and in others the bone of the tibia was completely exposed, but not carious. The bone of the tibia was harder and more compact than under ordinary circumstances. It was curious that the condyles of the femur had suffered also, though in a different manner. The bone, instead of being harder, was softer than natural, so that you might cut it with a knife. The cartilage adhered imperfectly to the bone; it could be peeled off, and in some places it had begun to ulcerate. The softening of the condyles of the tibia I have no doubt was the consequence, and not the cause, of the disease; for, you will observe, that all bones in a state of inaction lose a great part of their phosphate of lime. After compound fracture, when the patient has been long confined, the bone will actually become as soft as a scrofulous bone, so that you may cut them with a knife.

The three last cases show that it is not safe to leave an abscess in the lower end of the extremity of the tibia beyond a certain time; that the joint is always in danger, and that the perforation of the bone is the only remedy. Even if you were mistaken in your diagnosis no harm can arise from the operation. Nay, it is a question whether good may not arise under certain circumstances from taking away a piece of bone, where there is chronic inflammation in it, even though there be no abscess. The following very remarkable case will illustrate this last observation:—A young gentleman, who lived at Brixton, was brought to me by Mr. Crowdy, a practitioner of that place, with violent pain in the middle of one arm, the bone itself being enlarged in that part to which the pain was referred. Some remedies were tried, which I need not enumerate, without any benefit. The pain continued, and I began to suspect that there might be an abscess in the centre of the bone. Under this impression I proposed cutting down upon it, and making an opening with the trephine, so that I might remove the matter, if there were any there. The operation was performed; the trephine penetrated to the centre of the bone, but no matter escaped. I persevered, but still there was no matter, and at last the instrument penetrated completely from one side of the bone to the other. The bone was very hard and compact, and it was as much as the trephine would do to run it through. I thought that I had made a blunder, and that there being no abscess the operation would not be attended with any benefit. The next morning the patient had an attack of pain almost as severe as before the operation, but it did not last long, and he never had any pain afterwards. The wound healed, the relief was complete, and I heard of the patient not long ago as having continued quite well. I presume that this was a case of chronic inflammation of the humerus, and that taking out the piece of bone from the centre, probably partly by relieving the tension, and partly by a discharge of matter from the bone, unloading the vessels, accounted for the relief which the patient obtained from the operation. *London Medical Gazette.*

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*History of a case of ligature of the left subclavian artery between the scaleni muscles, attended with some peculiar circumstances.* By J. C. WARREN, M. D., Professor of Anatomy and Surgery, in Boston, U.S.A., Honorary Fellow of the Royal Medical and Chirurgical Society, &c.

The author remarks that the history of an operation for the ligature of the subclavian artery would seem scarcely worthy the attention of the society. This operation has



been done many times in various parts of the world and the annals of this distinguished body contain no less than twelve cases. The case which he has the honour to lay before them possesses peculiarities, and will, he hopes, afford some practical inferences.

James A., aged about thirty, on the evening of December 23rd, 1843, while in a state of intoxication, slipped on ice, fell, and struck his left shoulder against the kerb-stone of the side-walk. Surgical aid was called, and violent efforts were made to reduce the dislocation, but in what manner the patient could not tell, excepting that he thought one person placed his foot with a boot on, in the axilla. He was sent to the hospital, and on the next day was seen by the author, who found the left arm and shoulder much swollen. Leeches and cold applications were employed, and on the following day the swelling was so much reduced as to enable him to decide that no dislocation existed. During the night of the third day following, (Dec. 28,) the patient was seized with a violent fit of coughing, in which he felt something give way in his shoulder. The next morning the shoulder and arm were very much discoloured and enlarged, the arm was painful, and the patient much prostrated. On the 30th it was discovered that the man had no pulse in his left wrist, or in any part of the arm, and he had also lost both feeling and motion in the extremity. The swelling increased until it became enormous, the arm turning back in the axilla. A vesication was noticed on the back of the forearm. January 27th, 1844, an abscess was found to be forming in the axilla. In seven days it pointed, but did not open till February 4th, when it discharged a coagulum, and about a pint of dark-coloured blood. Three days subsequently, at six o'clock in the morning, a sudden gush took place from the wound, by which the bed was inundated, the mattresses soaked, and the blood poured upon the floor. Exhausted and almost lifeless, he sunk into a state of syncope, and the hæmorrhage ceased. As he was too low to undergo any operation, it was agreed that if he lived till the next day, the subclavian should, if possible, be tied. By the next morning, he had much revived. At ten o'clock he took eighty drops of the tincture of opium, and at eleven was carried into the operating theatre.

A great difficulty presented itself in the outset of the operation, the swelling of the shoulder, the tumour in the axilla, and the natural shortness of the neck almost obliterating the space between the shoulder and lower jaw. The author, after minutely detailing the steps of the operation, states that the aneurism needle was passed under the first dorsal nerve, which was mistaken for the artery. The wound was too deep, too narrow, and of consequence too dark, to permit the artery to be visible. The anterior scalenus was partially visible, and passing the forefinger of the hand to the edge of this, a good portion of the muscle was divided by the probe-pointed bistoury, introduced upon the finger. The subclavian artery then became quite sensible to the touch, and slightly distinguishable by the eye. A long aneurism needle was passed under the artery, and at this moment a slight whistling was heard, and the author was satisfied that some air had entered the thorax. The ligature was tied, and the wound closed.

The patient improved after the operation. On February 22d, the thirteenth day, the ligature was removed. On the 29th, a stream of blood was seen to issue from the unclosed part of the wound; the blood lost amounted to about a pint, did not issue per saltum, and was of a venous colour. The hæmorrhage was arrested by pressure. At the commencement of March he had an attack of pneumonia, confined to the lower lobe of the left lung, and also a second attack about the 1st of May. By the first of October, the swelling had disappeared from the arm, and the motion had returned in the shoulder-joint. The large excavation in the axilla was reduced to a fistulous tube. On

February 4th, three hundred and sixty-one days after the operation, the author was able for the first time, to detect a distinct pulsation in the radial artery, and subsequently one of an indistinct character in the ulnar and brachial. The patient, June 15th, had nearly recovered. There were still fistulous openings in the neck and axilla. Sensation and motion were slowly improving.

The author remarks, that the cause of the rupture of the subclavian artery in this case is involved in some obscurity. The probability seems to be, that great violence was employed in the attempt to reduce the bone, and that the arteries and nerves were contused by strong pressure of the operator's boot, combined with the forcible extension of the arm. The vessel did not rupture immediately, because its coats were contused, and not torn asunder, but a separation of the contused parts took place, in consequence of the violent efforts of coughing, on the fifth day after the accident. The author, after noticing the occurrence of secondary hæmorrhage twenty days after the operation, makes some extended observations on adhesion of the coats of the vessel within the ligature, on the formation of a plug of coagulum on the cardiac side of the ligature, and on the effusion of lymph external to the artery.

Various circumstances in this case led to the examination of other cases of the same operation. These are arranged in a tabular form, and notice is taken of one striking and important result—viz., that the operation of ligature of the subclavian is the least successful of any on the great arteries, the deaths being about two-fifths of the whole number of cases contained in the table.

Here follows a table of fifty cases, showing the name of the operator, the date of the operation, the side, seat of the ligature, the period afterwards at which the pulse returned, the period at which secondary hæmorrhage occurred, the date of the separation of the ligature, and the result of the case.

Mr. TAMPLIN alluded to the occurrence of the hæmorrhage on the second occasion, before the operation, and asked if means should not have been taken at that time to arrest it?

Mr. ARNOTT remarked, that it had been asked why nothing had been done to prevent the secondary, or rather the hæmorrhage, in the first instance, when it could not be called secondary. Before adverting to this, he could observe, that Dr. Warren was an able surgeon, as every one who saw him in England a few years ago must know, and that he was not likely to neglect any circumstance or point in an important case. But the truth was, cases of the kind were very difficult ones. Here is a dislocation; in reducing it the heel of a boot is forced into the axilla. In five days afterwards, something gives way under coughing, and a large effusion of blood takes place in the axilla and arm; matter forms and is discharged, and in a day or two, the coagulum being loosened, copious hæmorrhage takes place. The axillary artery is supposed to have given way; and had Dr. Warren known where it was injured, no doubt he would have followed the rule of practice in case of an injured artery—viz., have cut down upon it and tied it at the seat of injury. But he did not know, he was not certain, and then he did the next best thing, he tied the artery above the swelling. In the remarks appended to the case, Dr. Warren adverts to several points as if they were new; he seems to suppose, for instance, that the fact of an artery uniting under a ligature without any internal coagulum taking place in the artery is so. But this circumstance has been long known in England, and though usually such coagulum does form, yet you may occasionally have firm union near to a collateral branch, even without any internal coagulum being formed. The doctor speaks of adhesion taking place under the ligature; Mr. Arnott was not sure if he understood exactly what was meant; but certainly no adhesion takes place under the ligature. The

part included by the ligature is killed, it sloughs, and is separated by a process of ulcerative absorption. Then he dwells upon an effusion of lymph taking place around the artery, and supporting the internal coagulum, as if there was something novel in this, whereas this has been always, at least, long known and taught here. Whether there is an internal coagulum or not, you always have lymph effused around the ligature, from the outer coat of the artery, upon the outside of it, and this, in the first instance, unites the ends of the artery, which is cut through by the separation of the ligature. Mr. Arnott would not have made these remarks, but he did not think the society should be allowed to adjourn under the notion that there was anything new, or of importance, in the remarks of Dr. Warren, which only contained doctrines with regard to the union of arteries long known and taught in this country.

Mr. Quain observed, that there was a point or two of practical importance, connected with the valuable case detailed by Dr. Warren, to which he desired to direct attention. The first that he would notice had been alluded to by the last speaker, Mr. Arnott, who said that the "rule of practice," in case of bleeding from an artery, was to cut down to the vessel at the place where the blood issued from it, and tie the vessel above and below the wound, but that the case under consideration was an exceptional one. He (Mr. Quain) apprehended that the rule of practice mentioned by Mr. Arnott applied to wounds and recent cases. He was of opinion that this rule did not apply to cases in which there was inflammation with extensive swelling, suppuration, &c. To cut down through such parts, in order to tie a vessel, altered as it would under such circumstances be, could scarcely be admissible.

The next point he thought deserving of notice, was the place at which the ligature had been applied to the artery. The vessel was tied beneath the scalenus muscle, and it was sought for in this position, because the operator could not reach it on the first rib. He was of opinion, that when there was any difficulty about placing the ligature on the vessel where it rests on the rib, it should be made a general rule to seek it beneath the scalenus, or after it has passed beyond the muscle, and before it approaches the tubercle on the ribs. This part of the artery is higher, much higher in some cases, and on this account more accessible (the clavicle being elevated) than where it rests behind the tubercle on the rib.

In illustration of the advantage of the course here recommended, he cited two cases, which occurred in the practice of Dupuytren. In one of these, the first (he believed) in which that surgeon operated on the subclavian artery, he placed the ligature on the part of that vessel which is behind the scalenus. The result was in all respects favourable; and an account of the case was published by Dupuytren. The second operation was performed a short time after that just referred to, and the intention was to tie the subclavian on the rib. In this instance a large nerve, with half the artery, was included in the ligature. The aneurism needle had been passed through the vessel. The patient died of hæmorrhage in a few days. The history of this case was not, that he was aware of, published by Dupuytren; it was communicated to the *Edinburgh Journal* by Dr. Rutherford, who was present at the operation. He referred to another case, in which Sir A. Cooper failed to tie the same artery on the first rib; and from these facts he drew an inference in support of the plan of operation above noticed.

With respect to the case to which Dr. Warren made reference at the end of his paper, that in which he tied the common femoral artery in consequence of hæmorrhage after amputation of the thigh, and with a favourable result, he observed, that he could not regard that as the operation which afforded the fairest prospect of a

successful termination in such cases. He had, in one instance, seen that operation followed by secondary hæmorrhage, which was arrested only by tying the external iliac artery. The unfavourable result of operations on the common femoral artery was shown in a paper he had the honour of communicating to this society from a friend of his, Mr. Hadwen. Operations on the external iliac artery were much more frequently successful.

Mr. Fergusson agreed in the remarks made by Mr. Arnott with respect to secondary hæmorrhage, and considered that the author had placed more importance than was necessary on tying the artery at a distance from the principal branches. Such a proceeding was by no means novel, as it had been a commonly taught doctrine ever since the time of Jones. He (Mr. Fergusson) was inclined to place less importance than was usually done on the internal clot, for ample proof existed that a vessel might close after the application of a ligature near a large branch. Mr. Porter of Dublin, had tied, with success, the right carotid within an eighth of an inch of the innominate; and the internal iliac and other arteries which had been tied with success, showed that arteries might close by adhesive inflammation, though immediately contiguous to such a stream of blood as passed through the innominate. He had a great respect for Dr. Warren, and spoke with great deference of that gentleman, but he could not help thinking that more had been made of this case than was necessary: he could not indeed see any practical deductions which were not well known to all practical men in this country. Many interesting circumstances had undoubtedly occurred in the case, but there was nothing which was not ordinarily alluded to in lectures on surgery. He referred particularly, however, to two points in Dr. Warren's paper. One had reference to the conviction that the pleura was wounded. Now it did not appear to him (Mr. Fergusson) that the symptoms detailed made this a matter beyond doubt. Dr. Warren had spoken of this accident as though it were not uncommon, but he (Mr. Fergusson) thought it did not often occur. Indeed, the only case which then occurred to his memory, was the one which was under the care of Mr. Colles, but in this instance the subclavian was tied on the right side, between the trachea and scaleni muscles, whilst in Dr. Warren's case the vessel had been secured over the first rib; he thought the pleura was in little risk from the latter operation, even though the anterior scalenus might, as it did in this case, require division. The statistics appended to this paper would correct him (Mr. Fergusson) if he were wrong regarding the frequency of wounds of the pleura. The second point he wished to refer to was, the peculiar sound of the heart which was mentioned—a sound which he might safely say was quite unknown to practitioners in this country.—*Lancet*.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—

NOVEMBER 11, 1845.

DR. CHAMBERS, President.

*On the minute anatomy and pathology of Bright's disease of the kidney, and on the relation of the renal disease to those diseases of the liver, heart, and arteries, with which it is commonly associated.* By GEORGE JOHNSON, M. D., of Kings College, London. (Communicated by R. B. Todd, F.R.S.)

The author began by stating that the true nature of Bright's disease was, he believed, to be found in diseased state of the secretory or epithelium cells which line the urinary tubules. He arrived at this conclusion in the first

week of July of the present year, at which period he demonstrated his preparations to Professors Todd and Partridge and a paper containing the result of his researches was given into the hands of one of the secretaries of this society on the 7th of August.

The author then stated that he had ascertained that the secretory or epithelium cells of the kidney contained naturally a minute quantity of oil in the shape of globules, such as are familiar to microscopical observers. The presence of these globules is constant in the kidney, but its quantity varies considerably within the limits of health.

Bright's disease, the author considers, may be described as primarily and essentially an exaggeration of the fat which exists naturally in small quantities in the epithelium cells of the healthy gland—a fatty degeneration of the kidney analogous to the fatty degeneration of the liver, described by Mr. Bowman. This accumulation of fat in the secretory cells necessarily lead to the engorgement and dilatation of the tubules which they line, and one or more convoluted tubes, thus gorged with fat, and projecting either on the surface of the gland or on the surface of a section, constitutes one of the so-called "granulations of Bright." Some Malpighian bodies were observed to contain no fat, whilst others were gorged with fatty cells, but the author had never observed in these bodies an accumulation sufficient to produce destructive pressure on the Malpighian tuft of capillaries. The frequent connection of albuminous and bloody urine with Bright's disease, and the atrophy of the kidney, are attributed by the author to the mechanical operation of the above described fatty accumulation. Having alluded to the circulation of the gland, as described by Mr. Bowman, he entered into a minute detail of the reasons which led him to the conclusion that the presence of albumen and blood in the urine is, in this disease, a secondary phenomenon, dependent on the previous morbid changes.

In reference to the atrophy which the kidney so often undergoes in this disease, the author contrasted the well-known peculiarities of the vascular organization of this organ with the very dissimilar arrangements of the vessels and secretory cells of the liver, an organ which appears to suffer but little from a similar engorgement in its cells.

In speaking of the stages of this disease, the author observed that he had no reason for believing in the existence of any congestive stage as necessarily preceding the morbid accumulation which he describes. The various forms about which so much has been said and written, he believes to depend in great part, if not entirely, on the rapidity with which the disease advances. In cases of long duration, the kidney is generally found small, contracted, and granular; when the progress of the case has been rapid, the gland is large, smooth, and mottled.

The author then dwelt at some length on the frequent coincidence which he had observed of the disease in question with a similar fatty degeneration of the liver, arteries, and valves of the heart.

From the above data the author deduced the important practical conclusion, that these fatty degenerations, so often conjoined, are of constitutional origin, and that they must not be considered and treated as local disorders. He repudiated the notion of Bright's disease having any specific connection with scarlatina, neither did he believe in its alleged relation to acute inflammatory dropsy.

The causes of the disease are, according to the author, essentially debilitating; in large towns the disease is prevalent and fatal, in country districts it is comparatively rare. The disease has been artificially produced by Mr. Simon, of King's College, in the lower animals, by their continued exposure to depressing influences.

With respect to the microscopical characters of the urine in this disease, the author remarks—1st. That the cylindrical bodies described by Dr. F. Simon are fibrinous casts of the tubes, frequently entangling blood discs, oil globules, or

epithelial cells, with fatty contents. 2nd. That the presence of much fat in the urine is an alarming symptom. In an advanced stage of the disease fat rarely abounds, but from experiments on the lower animals, as well as from observation on the human subject, it seems probable that in many cases of chronic ill-health during a period in which no especial attention is directed to the state of the urine, there may be eliminated with this secretion such an excess of fatty matter as would in reality mark the first stage of Bright's disease.

On the subject of treatment, the author stated that the obvious indications were—

1. The pursuance of a general tonic regimen in respect of diet, atmosphere, exercise, and medicine.
2. The careful avoidance of all exhausting remedies.
3. To avoid, as articles of food, fat and other highly carbonized materials, &c.
4. To relieve congestion of the gland by strict attention to the functions of the skin and bowels, and by such small bloodlettings as circumstances might demand.

Dr Todd said that he rose at that early period of the debate for the purpose of bearing testimony to the accuracy of Dr. Johnson's statements. The admirable and lucid manner in which Dr. Johnson had expounded his views, would, he was sure, be generally acknowledged. He (Dr. Todd) had had the opportunity of watching the progress of the investigation, from its commencement in July to the completion of the paper which had just been read, and he would add, that he had rarely witnessed a more interesting inquiry. Independently of the intrinsic merit of this investigation, he felt that it was peculiarly important, as tending to turn the attention away from questions of mere vascular repletion, or the opposite condition, and to direct it to the real state of the elements of textures—as of the kidney, in the present case—as being those parts in which the seeds of disease are sown. According to the views now brought forward, we must count three stages in Bright's disease;—In the first stage there is a morbid state of the primary and secondary assimilating processes, giving rise to a diseased state of the blood. At this stage there are no very marked signs of disorder readily recognisable by the physician. The second stage is accompanied by a change in the attraction between the gland and certain constituents of blood, so that fat, which in health passes off by the kidney only in small quantity, is now attracted largely to its elementary parts, the epithelium cells, and accumulates in them to overload. These gorged cells, collecting in the uriniferous tubes, press upon the capillary plexus of their walls, and throw back the blood on the Malpighian tufts, causing congestion or rupture of them. And this is the third stage in which the urine becomes albuminous, and other signs appear, which have been so well pointed out by the extraordinary clinical research of Dr. Bright and his followers. A strong feeling had grown up among practical men as to a close connection between this disease and scrofula. The author's statements respecting the artificial production of the disease in animals bore upon this subject; but further research was necessary before the exact nature of the connection could be determined.

Dr. Bright eulogized the paper, as showing great industry and perseverance. It was a paper of the greatest interest, and to himself more especially so. He could not vouch for the accuracy of all conclusions come to by the author, but they bore the appearance of the greatest probability—they appeared like truth. Should future observers confirm the correctness of Dr. Johnson's investigations, a most important vacuum in regard to the disease under discussion would be filled up, and a more rational line of treatment would doubtless be the result.

Dr. Copland regarded the paper as one of great interest, the chief point in it was new and striking, but there were particular statements in it which it was desirable to

notice. It was stated by the author that the disease had its origin in mal-assimilation of the food by the organs of digestion, resulting from a morbid state of the blood. Now this was by no means a novel doctrine, for in a treatise which he (Dr. Copland) had published three years since, he had expressly stated this to be his opinion. He should be glad to know, in respect to the presence of fat in epithelial cells of the kidney, whether Dr. Johnson had any other than microscopical evidence of the correctness of his statement—had any chemical examination been made? Granting that the disease did arise from the presence of fat in the epithelial cells, how could we account for the large quantity of albumen found in the urine, the absence of salts in that secretion, and their presence in the blood? The treatment advocated in the paper was that which was usually pursued.

Dr. SNOW said, that he felt a difficulty in admitting that the fat which Dr. Johnson had discovered in the minute tubuli of the kidney, could by its mechanical pressure, be the cause of the escape of albumen, and other constituents of the blood, into the urine; for in the latter stages of the disease, when the amount of the fat must be greatest, the quantity of albumen was diminished, and in many cases disappeared altogether. If there was any great amount of albumen, or blood, in the urine, in the advanced stage of Bright's disease, it was when, supervening on the chronic disorder there was an acute attack, resembling the acute disease of the kidney from exposure to cold, or that which follows scarlet fever, in which acute diseases, the author of the paper admitted that fat was not present. Whilst he (Dr. Snow) admitted that the disease in question generally commenced gradually, and was the result of cachexia, he considered that it sometimes owed its origin to an acute attack. In a child that died of dropsy at the end of two or three months, after scarlet fever, he found the kidneys so much hypertrophied, that they weighed a pound, and were, to some extent, affected with granular degeneration. Now the dropsy commenced in this child about twenty-one days after the commencement of the fever, and just in the same manner as it comes on in other children, in whom we know, from their perfect recovery, that there was no previous disease of the kidney. Dr. Christison had mentioned one or two cases of this disease which seemed to owe their origin to scarlet fever; and Dr. Bright had related some which seemed to date their origin from an acute attack. If the patient should abstain from fatty and farinaceous and saccharine food, as recommended in the paper, the only sustenance left for him would be nitrogenous food, as albumen and fibrine; but unfortunately, he was in constant danger of secondary diseases, as inflammations and coma, with convulsions, from the nitrogenous products of excretion, which the disabled kidneys could not duly separate from the blood.

Dr. BUNN had some time since been made acquainted with the views advocated by Dr. Johnson, and had put to the test the plan of treatment recommended. He had placed three or four patients, in King's College Hospital, labouring under dropsy and albuminous urine, on a diet consisting of lean meat, bread and water, and abstaining from sugar, fat, and starch. He had also administered iodide of potassium and liquor potassæ. The result of the treatment, as far as it had gone, had been quite satisfactory; but of course, at present, it would be premature to draw any conclusion from it. It would be scarcely possible to over-estimate the value of the paper, which threw a flood of light on the pathology, and realised the sagacious suspicion of Dr. Prout with respect to the true nature of the disease. Considerable stress had been laid on the structural changes in this disease; but the question arose as to the origin of the fat formed in the epithelial cells. It had been considered, that in the fatty liver which prevailed in the advanced stages of phthisis, the fat was attributable to

deficient aeration of the blood; but this opinion was not tenable, for depositions of fat in vital organs were found, in all cases, attended with much fever and rapid wasting. He considered, that in these cases there was not a deposition of new fat, but that the fat stored in the system was taken into the circulation, and redeposited in the various organs found affected. The fatty livers in the well-known Strasburgh geese resulted from the causes he had alluded to. This view was further strengthened by the fact, that patients labouring under albuminuria were usually fat.

Dr. JOHNSON said, in reply to Dr. Copland's question regarding the evidence of the presence of fat in the kidney, that a microscopical observer was scarcely likely to confound fat globules with globules of albumen. He could, however, offer a chemical test of the accuracy of his statements, as he had with Dr. Miller, commenced an analysis of portions of fatty liver and fatty kidney by digestion in ether, by which it was shown that the former contained rather more than, and the latter about one-sixth portion of fat. The analysis was not yet complete, or he should have alluded to it in the paper. When complete, however, it was probable that fat would be found in even greater proportion. With respect to the observations of Dr. Copland regarding the treatment of the disease, he, Dr. Johnson, thought one important principle had never before been mentioned, that of the necessity of abstaining from fat as an article of diet.

Mr. TOYNBEE had during the last three or four years, injected and examined as many as eighty kidneys. He complimented the author of the paper on his investigation, but he regarded the inquiry as not yet complete. He agreed with Dr. Johnson that it was not probable a microscopical observer would mistake albumen for fat. In the investigations which he had made, he had paid particular attention to the condition of the arterial, venous, and tubular vessels of the organ, and for this purpose had made minute injections. In this particular respect, Dr. Johnson's paper was deficient. He had observed in the advanced, and, indeed, even in the early stages of the disease, that the blood vessels had become diseased; the plexuses of vessels in the Malpighian corpuscles were enlarged to three or four times their natural size, as were also the tubuli. Dr. Johnson had also neglected to investigate the condition of the true parenchyma of the kidney, and had paid too much attention to the lining membrane and the epithelial cells, for the parenchyma consisted of corpuscles or cells which in this disease became much enlarged.

Mr. SIMON spoke of the great difficulty, and, indeed, impossibility, of injecting the kidney in Bright's disease, in consequence of the impervious condition of the vessels. With respect to the treatment of the disease, he differed from Dr. Copland in considering that the treatment recommended in the paper was that which had been always pursued. Dr. Copland, in his dictionary, had enumerated other modes of treatment which had been employed, and among them, that of hydragogue cathartics, mercury, venesection, and other depressing remedies—means which were quite forbidden by Dr. Johnson, to whom the profession were at least indebted for pointing out an explanation of the rationale of treatment.

Dr. COPLAND, in explanation, said, that in his own practice he endeavoured to improve the function of the digestive and assimilative organs; he ordered cuppings, to a small extent, in the loins, in the early stage of the disease, and exhibited chalybeates, with the view of improving the system. He had found much advantage from the tincture of muriate of iron, combined with tincture of lytta, or some other stimulant. He was at a loss to explain, from Dr. Johnson's theory, the occurrence of very acute cases of the disease, which could scarcely be considered to arise from a rapid deposition of fat in the kidney.

Dr. BUNN said, that Mr. Busk of the Dreadnought had, six or seven weeks since, exhibited to him some drawings of

morbid kidney, which tended to confirm the views of Dr. Johnson.

Dr. Todd remarked, that if Dr. Copland would weigh well the observations made, he would change the order of his treatment. Small bloodlettings in the early stage did harm, for it was only in the more advanced stages of the disease, when the accumulation of fat had taken place in the kidneys, and the organ became congested, that small bloodlettings did good.

Dr. C. J. B. WILLIAMS was not present when the paper was read, but he had gathered sufficient from the speakers to arrive at a knowledge of the main points of treatment advocated by Dr. Johnson, and that he deprecated any depletory measures, particularly in the earlier stages of the disease. Now he (Dr. Williams) knew no treatment so beneficial and successful as cautious bloodlettings in the early stages, particularly in the acute form of the disease. He had recorded twenty or thirty cases of albuminuria, altogether independent of scarlet fever, and coming on as an acute disease, in which in the early stages, he had employed cupping on the loins, hydragogue cathartics, conjoined with medicines calculated to improve the general health, with the greatest success. He had found no improvement in the condition of the urine, until these means had been applied. The enlarged and congested state of the kidney, together with tenderness over the organ, demanded this plan of treatment. Depletion, on the contrary, was contra-indicated in chronic cases; he agreed with Mr. Toynbee as to the importance of attention, in the first instance, to the condition of the parenchyma of the organ, as he (Dr. Williams) considered that the deposit of fat was a secondary effect, and not the *fons et origo* of the disease. There were certain conditions of the kidneys, somewhat resembling Bright's disease, in which there was diminution of the urine, with albumen, but the water of the urine was diminished in quantity as well as the natural constituents of the secretion; but here, instead of having a mottled kidney, you had simply enlargement and induration; the organ did not abound in fatty, but in granular matter; and the cells constituting the parenchyma were increased in number, and contained granules. Dr. Quain had also discovered these granules in the tubuli.

Dr. GOLDING BRID, whilst according his fullest approbation to the ingenuity and industry displayed in the researches of Dr. Johnson, still felt compelled to withhold his acquiescence in the statement that the hypothesis now propounded was adequate to explain all the phenomena observed in the disease under consideration. The late hour of the evening prevented his alluding to more than one or two of the most important points, in which he felt inclined to regard Mr. Johnson's theory as insufficient. The great novelty of his views consisted in the parallelism he had drawn between fatty degeneration of the liver and the state of the kidney under discussion. Yet what was the fact? In fatty liver, the secretion of bile went on tolerably well; at all events, remarkably so when the state of the gland itself is borne in mind, there being no evidence of the retention of bile in the blood, jaundice being by no means a necessary concomitant even of a very fat liver. Yet how different are the facts observed in the granular kidney which Dr. Johnson assumed to be in the state of fatty degeneration; here the two elements of urine are not properly excreted; on the contrary, albumen and certain elements of the blood appear in the secretion, whilst the patient is poisoned by the retained elements of urine. Hence, if Dr. Johnson's views be accepted, we must admit that fat deposited in the cells of the liver and tubes of the kidney produces very different results on the secreting powers of the organ. Further, the fact of diuresis, often copious in the latter stages of morbus Brightii, appeared to him to be quite opposed to the belief that increasing pressure on the vascular plexuses, by deposited fat, was an active agent up to the last stages of the disease.

Dr. WATSON having passed a high eulogium on Dr. Johnson's paper, the society adjourned.—*Lancet*.

## DISEASES ARISING FROM THE MANUFACTURE OF ZINC AND COPPER.

The March number of the *Journal de Médecine* contains a very interesting article by M. Blandet, on the diseases arising from being employed in the manufacture of articles of zinc and copper. Christison asserts, that in the few and rare cases supposed to be colic from copper, the disease is due, not to the copper but to the lead which is often united with the copper to prevent its oxydation, where, as the fact is that no lead whatever is used to alloy the copper employed in the arts; and even were the proportions of lead made use of which have been recommended in one receipt, we can scarcely suppose that the dust of an alloy containing only 1-200 of lead could suffice to produce lead colic. It is zinc and not lead which is employed in the proportion of from 33 to 50 per cent. to prevent oxydation. The popular notion, that the disease is due to the lead contained in the solder, is equally false; no lead whatever being employed for this purpose. Physicians in all countries being unwilling to admit the existence of a colic caused by copper, have been in the habit of setting down as colica pictonum every case of colic met with in a worker in metal, whether the fact of his making use of lead was or was not ascertained; and, consequently, on looking over the records, for the last two years, of the hospitals Saint Antoine la Charité, Hotel Dieu, and La Pitié, M. Blandet found no less than 18 cases of colic, which had there been met with in turners, founders, polishers, &c., of copper, many of whom ascribed the symptoms solely to the use of that metal. Mr. B. remarks, that the number would have been much greater, were it not that many physicians finding it impossible in any way to father the disease on the handling or inhalation of lead, set it down as enteritis, &c. M. Blandet seems to look on the introduction of particles of copper into the prima via, by their being diffused in the atmosphere, or communicated by the hands or benches of the workmen to their food, &c., as the most fruitful source of disease; and hence he recommends covering the mouth with a cloth to strain the air, strict attention to personal cleanliness, and the prohibition of eating in the workrooms, as the best preventive measures. The workmen universally rely on the use of milk as the most effective means of warding off an attack of colic.

The symptoms in trifling cases, which for the most part do not prevent the patient from working, consist merely of colic pains, lasting one, two, or three hours, and often leaving after them great abdominal tenderness, so that the patient cannot bear to button his trowsers. During the fit, relief is obtained from bending forwards. Pressure may or may not cause pain. In more severe attacks there is diarrhœa, the evacuations being generally greenish, (in some of the cases given in the paper of M. Blandet, copper was distinctly recognized by the usual tests.) In other instances, their is bilious vomiting, and occasionally passing of blood. The circulation is rarely affected; but sometimes a kind of excitement, analogous to intoxication, has been observed. Cough is a very frequent symptom; but the affections of the respiratory system, the author promises to make the subject of a distinct memoir. The following is a tabular view of the means of distinguishing colica pictonum from the colic produced by copper:—

### COPPER COLIC.

1. Diarrhœa frequent.
2. Alvine evacuations, greenish.
3. Abdomen generally pained by pressure.
4. Vomiting frequently met with.
5. Sanguinolent evacuations.
6. Duration, forty-eight hours.
7. No affection of the nervous system.

8. Workmen become accustomed to the emanations of copper, which eventually cease to affect them.
9. Milk and sweetened albuminous fluids prevent and relieve copper colic.
10. Opium is indicated in the diarrhœa of copper colic.

COLICA PICTURUM

1. Constipation.
2. Sero-mucous stools.
3. Abdomen free from pain, and most frequently relieved by pressure.
4. Rare.
5. Never met with.
6. Duration several weeks.
7. Marked affections of nervous system.
8. A miserable death is the result if the patient persist in his occupation.
9. Sulphuric acid and some of its compounds appear to prevent and cure lead colic.
10. Purgatives are indicated in Saturnine colic.

The treatment recommended is very simple. Milk, or rather albumen, sweetened with sugar, is to be given to shield the stomach and intestines from the irritation of the particles of copper. In cases of constipation, a gentle purgative is to be given, or the bowels are to be freed by a laxative enema; but in all cases the application of opiate lotions to the abdomen, and in most, the administration of laudanized syrups will be attended with the best effects.

An abstract of the examination of a great number of operatives and manufacturers is given by M. Blandet to prove that the apprentices and fresh hands rarely escape an attack of some kind, originating in the poison of copper, and that very serious symptoms originating in this source are of ordinary occurrence in the workshops, although the sufferers rarely apply at the hospitals for aid.

Poison of Zinc.

M. Blandet having been led to inquire into the affections supposed to arise from the vapours of oxide of zinc diffused through the atmosphere was at first surprized to find, that although the brass-founders often experienced much annoyance from this cause, the smelters of zinc were perfectly free from any unpleasant effects of the kind. An intelligent workman, however, relieved him from his embarrassment by assuring him, that the low heat used by zinc smelters was not sufficient to vapourize the metal, whilst in brass-founding, the much greater heat required to cause the copper to enter into fusion vapourized a considerable portion of the zinc, which being inhaled by the workmen, gave rise to the symptoms. In ordinary circumstances the vapours of oxide of zinc are carried off rapidly by the draught; but when the wind is unfavourable, the draught bad, and the apertures admitting air, closed on account of the cold, the workmen, a few hours after being engaged in casting, complain of loss of appetite, oppression and pain in the stomach, vomiting or tendency to vomit, oppression of the chest with cough, pain in the forehead, ringing in the ears, general lassitude and sensation all over as if beaten, loss of appetite, shivering continuing for two or three hours and followed by cold sweats, or more frequently, the sweating is preceded by flushes of heat, and violent febrile reaction follows. In the morning all this train of symptoms has disappeared, but the health of the workman is gradually undermined, and asthma and other affections of the respiratory apparatus are a frequent consequence of the repeated exposure to these deleterious fumes. The remedy recommended by M. Blandet is, to give a purgative lavement, and to cause the patient to drink copiously of tea.

The preventive means are, to allow as few persons as possible to be present at the casting; to add the zinc to the copper at as late a period as possible; and above all to secure in the casting chambers a good draught and thorough ventilation.

The injurious effects of the fumes of oxide of zinc are attested by the evidence of numerous artizans and manufactu-

rers; and M. Blandet concludes his very important communication by urging the importance of prohibiting the establishment of zinc or copper foundries in cities or populous neighbourhoods since their deleterious fumes must make a powerful addition to the numerous train of evils almost inseparable from the crowding together of human habitations—*Journal de Médecine par M. Trousseau*, March 1845,

FUNCTIONAL DISEASE OF THE HEART IN PERSONS WHO HAVE LED DISSOLUTE AND INTEMPERATE LIVES.

Dr. Corrigan, in his lectures on the diseases of the heart, describes a form of functional disease of the heart arising in persons who have led dissolute and intemperate lives. "In such persons," he remarks, "the complaint commences with palpitations, which are excessively troublesome, and annoy the patient to such an extent as to induce a fear that organic disease of the heart may be present, and which may prove quickly fatal. The action of the heart is violently strong and tumultuous, and is often accompanied with pain shooting down the left arm as far as the elbow: these palpitations are much increased when he walks or takes exercise, if at all of a violent nature. In this state he is miserable, dreading nothing so much as instantaneous death at some period (of course) unforeseen by him; yet, with all these complaints, when you examine the heart you find it sounds natural. The tongue, in this disease, presents an appearance which you could not, *a priori*, conjecture;—on examination, its sides, tip and dorsum, present a red and glazed appearance, indicative, in some degree, of subacute gastric inflammation. In this disease the stomach acquires the power of secreting air, which often takes place to an enormous extent; and if we press upon it towards its great arch, we shall find it somewhat elastic, and if we apply the stethoscope in this situation, we shall find the stomach tympanitic, and the sounds of the heart in this region become preternaturally clear and distinct. The reason of this is obvious. The stomach, being enormously distended with its gaseous secretion, irritates the heart, and throws it into irregular action, while the sounds of the organ are transmitted with preternatural distinctness through a medium so well adapted for their conveyance as the air, which is secreted by the stomach in its present disordered state. I have seen this form of functional heart disease, as I have remarked already, in persons who have led dissolute, intemperate lives, addicted to excesses of every kind. I have seen more of it, however, in those persons who have returned from the civil wars in Spain than among any other class. I think that their mode of living while in Spain accounts satisfactorily for its very great prevalence among them. They were persons who, for the most part, were deprived, in a great measure, of a due supply of wholesome food; but who, in order to make up for this deficiency, addicted themselves to the intemperate use of stimulants of every class, such as green tea, tobacco, and, last not least, to the use of those which the country itself supplies with such lavish profusion—wine and brandy. Here we have all the causes necessary to produce gastric inflammation, and it is this which is the root of the disease.

We shall find the appearance of the tongue of material benefit to us in pointing out the treatment to be adopted, which is nothing more than the removal of the gastric inflammation which exists in a subacute form. In our treatment of this affection, our first step should be the application of counter-irritation over the epigastrium, and this continued, too, for a considerable time. For this purpose I generally prescribe the croton oil liniment, made with a drachm of the oil to an ounce of spirit of turpentine, or compound camphor liniment. This is to be rubbed in every morning and night until pustulation is produced. Along with this topical treatment, I am in the habit of prescribing oxide of bismuth, in conjunction with bicarbonate of soda, or better still, a combination of these two with the saccharine carbonate of iron in the following proportions:—

R.—Sodæ bicarbon. gr. x; Bismuth trinitrat., Ferri c. saccharo, aa gr. viij., pro pulvere, ter. in die sumende.

This must be persevered in for some time, until the tongue becomes improved in appearance, the stomach loses its power of gaseous secretion, and the patient no longer complains of palpitation or any other irregularity of the heart. It will be needless for me to mention that, in addition to these means of cure, you must prohibit your patient most strictly from the use of tea and all other



stimulants. Let his diet be one of a nutritious, non-stimulating character, containing animal food in quantity and quality suited to his enfeebled digestive powers.—*Med. Times*, Aug. 16.

### EPILEPTIC PALPITATION.

In the same lecture, Dr. Corrigan makes the following remarks relative to a functional affection of the heart which is caused by diseases of the brain. "It seems strange," he observes, "that an affection of the brain could cause palpitation of the heart, but, though strange, it is nevertheless true. You will be consulted by a young man, or by one probably in the prime of life, who will tell you that he has been attacked by palpitations for some time past, which render him uneasy, anxious and uncomfortable, and that they come on him when he takes exercise or is at all agitated. These palpitations frighten him very much, but when you examine the heart you find its sound perfectly normal. On questioning him as to the first occurrence of this irregular action of the heart, he will tell you, perhaps, that some short time ago he was attacked with a fainting fit, which he says has recurred since, and that, after the first attack of syncope, the palpitations began to annoy him. This is what the older writers termed *epilepsia silentis*—silent epilepsy. About the fainting fits themselves, the patient has not the least concern; he fears only for the palpitation, and to this he directs your attention exclusively. These fainting fits, if allowed to proceed unchecked, will terminate, perhaps, in a very short time, in well marked and regular epilepsy. However, they may run on for a period of two years before the disease perfectly shows itself. Your attention will be awakened here by finding these fainting fits coming on at a period of life when they should be naturally absent, from the vigour which the constitution enjoys. You will, therefore, proceed to inquire from what cause it is that they arise. The heart, as I have said before, is perfectly normal in its sound; no disease there; no symptoms of irritation along the vertebral column. Where, then, does the mischief spring from? The head, as I have remarked, is the cause of these alarming palpitations, and of those fits of syncope which have preceded the palpitations.

We have now to consider the means best adapted to relieve both the cause and its effects. The medicine which I have found to possess properties the most serviceable and advantageous in arresting this disease is the digitalis purpurea, or fox-glove. I have witnessed more benefit in cases of this kind from the use of the digitalis (bleeding from the arm having been in every instance premised), than from any other remedy or class of remedies which I have seen tried. To produce its beneficial effects here, you must not content yourself with administering it in the small doses of the pharmacologists. The form of the drug which I have found most beneficial is the powder; it must be given in doses of *two or three grains at bedtime every night*, and in some cases, *in five grain doses*, until it exerts its peculiar effects on the constitution. You will, therefore, consider this affection of the heart only as it really is, one of secondary importance; and, in the selection of your remedial measures, you will proceed at once to strike at the root of the evil where it really exists—in the brain; and not until every trace of mischief has vanished from thence can your patient be free from these palpitations, which are to him a source of such needless alarm. Without my having told you, your own common sense would at once have made you acquainted with the propriety of keeping your patient as free as possible from every source of mental irritation, as this has been known to prolong the disease to an extremely protracted period of time."—*Ibid.*

### FUNCTIONAL DISEASES OF THE HEART IN SEDENTARY PERSONS.

BY DR. CORRIGAN.

We often meet, in persons of sedentary habits, an affection of the heart, consisting of violent palpitation, which, as in all these cases of functional derangement of the heart, give the patient a great deal of unnecessary alarm. There is no abnormal sound here, though the heart may be felt acting with great vigour. If we examine these cases minutely, we shall find, in every one of them, evidences of venous congestions; the pulse is full and quick, the eyes are suffused, the patient feels more or less drowsy; there are sometimes a turgescence and lividity of the face, the swelling of the legs, and, occasionally, an inclination to syncope. These signs, if neglected for any period of time, will terminate in

an attack of apoplexy, in all probability fatal. It is easy to conceive why, in these cases, the heart should become affected with palpitations, in consequence of the extraordinary quantity of blood thrown upon it by the sedentary habits of the patient—these palpitations being nothing more than the struggles of the overloaded ventricle to discharge completely the quantity of fluid contained within it.

The treatment here is obvious and simple. Take blood from your patient to the extent of eight or ten ounces, so as partially to unload the ventricle; after that give a purgative, so as to unload the alimentary canal; and, in my opinion, you will have done everything requisite for your patient—in fact, you can do no more.—*Ibid.*

### CHLOROTIC PALPITATION.

Dr. Corrigan, in his lectures on diseases of the heart, now in the course of publication in the *Medical Times*, gives the following account of a peculiar functional disorder of the heart accompanying chlorosis. The following are its symptoms:—"Anæmia, characterized by the bloodless, tallowy appearance of the surface of the body; cough, oppressed breathing, dyspnoea, emaciation, loss of muscular strength, anasarcois feet, and effusion, perhaps, into the cellular tissue of the body. To these symptoms, alarming enough in themselves, are added palpitation of the heart, and bruit de soufflet. Here we have a train of symptoms alarming enough to induce us to suppose our patient labouring under organic disease of the heart. We find these palpitations increased on taking exercise, and sometimes accompanied by pain in the region of the heart. Have we any characteristic mark by which we can distinguish whether the above train of symptoms denotes organic disease of the heart or not? Yes. Although the other signs might readily deceive us as to its existence, yet by carefully examining the bruit, we can from it discover a means of arriving at the wished-for conclusion. The bruit, from the peculiarity of its sound, in these cases has been by the French writers termed *bruit de diable*. The sound closely resembles that produced by the school-boy toy (with which, I am sure, you are all familiar), made of a piece of iron, or stiff leather, nicked at the edge, and strung on a cord by a hole through its centre. This, on being twirled through the air pretty briskly, produces a peculiar sound. The bruit here differs from that of organic disease in the following particular:—In organic affection the beats of the pulse being 50, 60, 70, 80, or 90, in a minute, the number of times bruit is heard will tally exactly with this, except in cases of permanent patency of the aorta, when the sound of the returning portion of blood causes double bruit. In chlorotic palpitation, no matter what the number of pulsations may be, the bruit does not correspond with them. You cannot count the number of times in which you hear bruit de soufflet in this affection. There it goes on continuously, whirling away for one-half, one, two, three, or ten seconds; there is no intermission in it as in organic disease; it may hold on thus for half a minute or a minute, but during this time there is no cessation. In this distinction we possess a never-failing criterion between functional disorder and organic disease of the heart. In the chlorotic bruit de soufflet you can hear its sound also in the internal jugular vein, when the stethoscope is applied to the neck,—this sound proceeding here from exactly similar physical causes as those which I have detailed in the lecture explanatory of the causes which operate in producing bruit de soufflet. In the disease before us we have the physical cause acting in full force, which is absolutely essential in producing this sound—namely, an incomplete distension of the large vessels with blood, owing to the deficient supply of it in the system. But you must bear in mind, that in a person of perfectly sound heart, and enjoying excellent health, you may have bruit de soufflet present, from some cause or other, of only momentary duration.



"The treatment of this chlorotic palpitation may be divided under two heads:—1. To remove the constipated state of the bowels which always exists here, by means of purgative medicines, which are supposed to exert some specific stimulus on the uterus: of this class I think aloes the most preferable. 2. To improve the general state of health by the administration of a full diet of animal food, a moderate allowance of fermented liquors, by taking a sufficiency of exercise—walking, if possible, is to be preferred—and by the use of medicines which are supposed to possess the property of promoting materially the formation of red blood—chalybeates, for instance. By the use of these, and all other means which may suggest themselves to you as being useful in raising the debilitated system to a proper degree of vigour and to the highest possible tone, you will, in the majority of instances, quickly and effectually restore your patients to health."—*Med. Times*, Aug. 9, 1845.

### MIDWIFERY.

#### FOUR CHILDREN AT A BIRTH.—ACEPHALOUS MONSTER.

SURGICAL SOCIETY OF IRELAND.

Dr. Beatty said he was about to bring under the notice of the society a case which was possessed of considerable interest in many points of view. The specimen before them was a monster, which had been sent up for exhibition by Dr. Purefoy of Cloughjordan, the account given being as follows:—It was one of four children, born of the same mother at a single birth, three of whom were born alive and healthy. The first child was born at ten o'clock at night; in fourteen hours after a second appeared; in an hour after this, the monster came forth; and in an hour after that, the fourth, a living child was born. The only cause assigned for the occurrence was, that the mother had suffered considerable mental distress at about the seventh month of her pregnancy, from having seen the mutilated corpse of a cousin who was murdered in the neighbourhood; to this circumstance the neighbours were disposed to attribute the occurrence in question. The case was remarkable, (Dr. Beatty observed,) first, from the plurality of children; secondly, the birth of three alive, and in perfect condition; and thirdly, from the supposed cause of the occurrence which he had just mentioned. No examination had as yet been made of the preparation, as he was anxious to present it in as perfect a form as possible. It appeared to be, he said, one of those acephalous monsters, with, in addition, considerable deformity of all the limbs. Looking in the situation of the vertex, traces of the remains of a skull could be observed, and the specimen was found to differ from the ordinary acephalous monsters in their being no face. A slight projection occupied the natural situation of the nose, but no trace of any other feature existed. The upper limbs were particularly distorted, the arm being exceedingly short, and an absence apparently of the forearm, there being at the extremity of the arm a fin-like process representing a hand: the body, thorax, and pelvis appeared pretty natural, though very much misshapen; club feet were attached to both lower extremities; there was no trace of an anus; the dorsal region presented nothing unusual, there being no appearance of *spina bifida*. The monster was of the male sex. While thus examining the specimen, Dr. Beatty observed, the subject of monstrosity at large seemed to suggest itself for consideration, so that a few observations on that question might not be inapplicable just then. All present were no doubt aware, he said, that at the present moment the subject of monstrosities has given rise to a great deal of speculation in the minds of inquiring persons, leading to differences of opinion as to classes and kinds, some founding a classification arising

from a redundancy of parts, as in children born with supernumerary fingers and toes, an occurrence by no means common; others, again, founded a classification depending on deficiencies of parts, for instance, of the arms, or legs, or the absence of the hand, and so forth. Again, monsters were to be found with all the parts apparently present, but in a misshapen condition, the arms and legs being both perhaps pretty naturally formed, but short and deficient in size, &c. The cases presenting a deficiency of all the parts had been classified as conglomerate or mixed prodigies, their being apparent only a mass of flesh, and to this class of cases he would call their attention presently. A very common cause of monstrosity, he would remind them, was a deficiency of the upper part of the calvarium, called cat-headed, from the resemblance to that animal. This, he observed, would appear to be the case in the *fœtus* under examination, but presenting, in addition, an example of deficiency and of misshapen parts. A question with many has been the cause of the deficiency of the calvarium in these cases, and among a great many opinions offered, it appeared to him that the one now put forward by Rudolphi of Berlin, was nearest the truth. Rudolphi is of opinion that in the ordinary acephalous *fœtus* the deficiency of the brain is attributed to the *fœtus* in utero having got hydrocephalus, the fluid in which continues to increase till it bursts through the brain and its investing membranes, and finally through the integuments, the *fœtus* escaping with life, but born without the brain, and with complete absence of the upper part of the head. In the museum at Berlin are numerous specimens prepared by Rudolphi, exhibiting the disease in all its stages,—one with the head so enlarged by fluid as to be on the point of bursting; another, with a projection through the integuments of a vesicular character, the covering being a very delicate membrane through which the contained fluid is seen, and the brain, apparently, totally destroyed. From these and other proofs, Dr. Beatty considered that we are justified in accepting Rudolphi's explanation of the occurrence of acephalous *fœtuses* as the one most likely to be correct. Now, with respect to mental impressions, he would observe, that this is a vexed question, and has been for many years; however, numerous instances on record go to show that some connection exists between impressions made upon the mother and the *fœtus* in utero. He would not of course detain them by going into a detail of all the occurrences of this sort which might be adduced, but would just mention two striking cases which had come under his own immediate knowledge, selected from his father's case-book; one, was that of a lady, who, in the sixth month of her pregnancy, while walking on the South Circular-road, was accosted by a strong sturdy beggarman who solicited alms; she walked on, taking no notice of him, but he, finding his persecution unavailing, drew aside his coat and presented the short stump of an arm that had been removed half way between the shoulder and elbow. The lady, greatly shocked at the sight, got home as fast as she could, but went on well up to her full period; immediately on the birth of the child, however, she asked, with great anxiety, whether there was anything the matter with it. Dr. Beatty's father had heard nothing of the foregoing occurrence, and was of course surprised at the lady's asking the question, but on looking at the child there was found only one arm complete, the other being only a stump, as if after amputation. Such was the story, upon which it was for the society to set what value they pleased. The next case was one recorded several years after, in which the child was born with six fingers on each hand. The lady stated that when about five months pregnant, a person sitting in the same room with her was suddenly seized with epilepsy; and the patient's hands moved so rapidly that the fingers appeared to this lady as if multiplied to an immense number. She could never after banish the vision from her

mind, and her child was born with these supernumerary fingers. Here, then, was another remarkable instance to be added to the general mass of facts in relation to this subject. In the case to which he more immediately drew the attention of the society this evening, there existed, as he had before observed, a plurality of children. It was very rarely indeed, he said, that four children are produced at a single birth, so that the present case furnished an additional evidence of the prolific character of the females of this country, although it was stated by Devereux that in America the number of twin births far exceeds those of any other country in the world; while it is maintained by Dr. Collins of this city, that the occurrence of twin births is much more common than in any other country. A note in Ramsbotham's work, however, he thought, offered rather a satisfactory explanation of these two conflicting opinions. It is perfectly well known, he says, that America is to a great extent peopled by the Irish, there being of course a mixture from other nations, but the tendency was clearly to a majority of the population being constituted by the Irish. Dr. Beatty had brought with him, he said, drawings of two celebrated monsters formerly exhibited to the society; his object in presenting them now was not, he said, with a view of making much use of them on this occasion, but merely for the purpose of comparison. One of these cases had given rise to the late Dr. Houston's celebrated paper on the means by which the circulation is carried on in monsters generally, and which had been the occasion of a very spirited controversy between him and a gentleman in England. In that case there was no heart, thorax, head, or upper extremities. The other drawing represented a very remarkable specimen of monstrosity by fusion, which had been exhibited to the society by Dr. Speedy some time since, and was, Dr. Beatty observed, as curious an example of this class of monstrosities as ever he had seen, the only trace of anything like limbs being two fin-like processes, but there was in no other way the slightest resemblance to a human being.—*Dublin Medical Press.*

#### ON EXCISION OF THE OS UTERI.

By JAMES SYME, Esq., F.R.S. &c.

[Excision of the os uteri was, on account of the marvellous cures said to have been frequently performed by it, in cases of cancer of the uterus, very slow in establishing itself as legitimate practice in this country. Cancer of the uterus is in reality of very rare occurrence, and removal of the diseased part presents even less chance of recovery than of any other part in which this disease may exist. Cauliflower excrescence, as Dr. Clark named it, is, however, very much more common than was formerly supposed, and it has been ascertained that the removal of this by the knife or scissors, is an operation perfectly safe and effectual. Dr. Clark, so, when he wrote, had little to offer as regards treatment.]

A great step in advance has been made through the establishment of the important fact,—for which we are chiefly indebted to the surgeons of France, that excision of the os uteri, executed either by knives or scissors, is an operation perfectly safe and effectual when employed for the removal of growths not possessing a malignant disposition. The discrimination of such cases has consequently acquired no small increase of value, though comparatively little attention has been devoted to it in this country.

In performing the operation, it is always desirable and in general easily practicable, to draw the tumour fairly into view, so that the excision may be effected without taking away either more or less than what is requisite, and without injuring the neighbouring parts. The most convenient instrument for this purpose is that which Dupuytren employed—the hooked forceps of Muzaux, who invented it for facilitating the removal of enlarged tonsils—or “*villosities*,” as it has been improperly named by some writers, the old “*colicella*,” being parent of the instruments which act upon the principle of dissecting forceps. By means of the double hooked extremities of this instrument deeply inserted into the morbid growth towards its base, where the texture is of firm consistence, the tumour may usually be induced by steady traction of moderate force, to descend and present itself to view,

when a history or curved scissors may be used without any difficulty or danger. The assistance of a speculum should be taken to insert the forceps, and if it seems necessary in order to obtain complete command over the excrescence, additional instruments of the same kind are to be fixed into different parts of its substance. If the tumour cannot be made to protrude without resorting to an unsafe degree of violence, it may at all events be brought down in this way, so as to be within the reach of the fingers, which will then form a safe guide for the scissors, as in the case just related. The hemorrhage is seldom more than very trivial, and when at all considerable, may be suppressed by filling the vagina with lint. In a case which happened fourteen years ago, and was, I believe, the first of the kind subjected to operation in Edinburgh, I visited the patient about an hour after cutting off the excrescence, and to my no small alarm, found the blood dropping from her bed upon the floor. As there had been frequent and profuse hemorrhage from the disease, I considered it necessary to use the most efficient means for preventing any further flow, and therefore pulled the bleeding surface into view, transfixed its base with a needle, conveying a double ligature, and tied both the threads firmly. Recovery was accomplished without any untoward symptom.

In removing polypus of the uterus, evulsion, excision, and ligature have been employed, and each of these modes of operation may be rendered the most eligible by peculiar circumstances of particular cases. But in general, the combination of tying and cutting, certainly seems to be the best plan of proceeding. It has the recommendation of facility, efficiency, and safety. It accurately determines the limit of destruction, prevents the possibility of hemorrhage, and relieves the patient from the fetor, and other unpleasant consequences, which attend the slow separation effected by ligature. Finally, it has the testimony of experience in its favour.—*Monthly Journal of Medical Science, July, 1845, p. 488.*

#### ON RETROVERSION OF THE UTERUS.

By EDWARD RIGBY, Esq., M.D., &c.

In all cases of retroversion, especially where the reduction presents more than ordinary difficulty, I find the plan proposed by Professor Nægele, viz., of introducing the whole hand into the vagina, far superior to pressing up the fundus by two fingers of the left hand passed into the rectum, while we endeavour to pull down the os uteri by the index finger of the right hand. By introducing the hand with the palm upwards into the vagina, as the patient lies upon her back, we can get the points of the four fingers beneath the tumour, and press it upwards and somewhat forwards with great effect, while the hand itself, putting the posterior wall of the vagina forcibly upon the stretch, pulls down the os uteri at the same moment. This will be easily understood if we bear in mind the condition of the vagina when the uterus is retroverted; the anterior wall is violently dragged upwards by the os uteri, behind the symphysis pubis, while its posterior wall is found loose and doubled into a species of *cul de sac*. It is into this that the hand passes in the attempt to reach and press up the fundus; it is thereby rendered very tense, and, from its attachment to the uterus at the cervix, it acts in the same way as a cord does round a pulley? the same effort which tends to push up the fundus, tends also to pull down the os and cervix uteri.

The value of this mode of reducing a retroverted uterus struck me forcibly in a case which occurred in the unimpregnated state some years ago; she had been under treatment some time on account of inflamed cervix uteri, with severe lacerating pains, and much general derangement of health; the uterus was evidently much engorged, and both heavier and larger than natural; the abdomen was large and flabby, and there was considerable hemorrhoidal congestion. On carrying a heavy weight up stairs she suddenly felt as if violently strained, and this was immediately followed by the ordinary symptoms of retroversion. The bladder was even more distended than in the last case, the abdomen was much enlarged, and she looked like a woman in the latter months of pregnancy. My friend, Mr. T. A. Richards of Camberwell, who was one of the house surgeons to the General Lying-in Hospital at the time, assisted me to draw off the urine, the quantity of which was truly enormous.

During her involuntary efforts to strain, which the severe bearing down pain every now and then excited, the fundus was forced quite down to the perineum. The hand was introduced

into the vagina, and after a slow but steady effort, the fundus was raised above the brim, and the uterus righted. I have seen this patient repeatedly since, and she has had no more return of the displacement.—*Medical Times*, Oct., 4, 1844, p 27.

### TREATMENT OF PRURITUS VULVÆ.

Having been a great many times consulted for relief of pruritus vulvæ, and most frequently in pregnant women, I have rarely had occasion to order anything more than the following formula, viz.—

R. Sodæ borat. ʒss.; morphinæ sulphat. gr. vj.; aq. rosar destillat. ʒviij. M.F. sec. art.

I directed the person to apply it thrice a day to the affected parts by means of a bit of sponge, or a piece of linen, taking the precaution first to wash the surfaces with tepid water and soap, and to dry them before applying the lotion. I can confidently recommend the prescription as suitable in most of the cases of this most annoying malady.—*Dr. Meigs—Medical Gazette*, Sep. 12, 1845, p. 851.

## CHEMISTRY, MATERIA MEDICA, AND PHARMACY.

### THERAPEUTIC PROPERTIES OF VERATRINE AND STRYCHNINE.

Dr. F. A. Gebhard, of Moscow, has published an interesting paper on Veratrine studied comparatively with Strychnine, in Dr. Szerlecki's *Zeitschrift für Therapie und Pharmakodynamik*. An abstract of its contents is presented in the following summary:—

The experiments of Magendie and Andral prove the incredible rapidity with which strychnine is absorbed; those of Verviere and Segalas show that it may be actually detected in the blood, which is changed by its admixture with it; and post-mortem examinations disclose marked bloody infiltrations, turgidness of the veins, apoplexy, congestion, and even appearances of inflammation. Its primary effects, in small doses, are irritating and exciting; it appearing, at the same time, by its bitter principle, to improve the digestion, and unquestionably, in certain kinds of chronic diarrhœa, to be very useful. Yet the continued employment of strychnine in small doses, or even its administration in larger ones from the commencement, appears to cause, in some unknown manner, such a change in the blood as to result unexpectedly and suddenly in a powerful reaction on the nervous system, manifested by convulsions, tetanus, exhaustion, paralysis and death. In paralysis of the motor nerves, it has often been of great advantage, without having any effect upon any organ of secretion or of excretion; but in neuralgia, in which M. G. formerly employed it internally and externally, it gives no relief; while in many other diseases, as cramps and convulsions, it has been employed without success. Under these circumstances, and in view of the dangerous effects it often produces, M. G. thinks that some other remedy should be sought for even in those cases in which it has proved advantageous. The remedy which he proposes to substitute is veratrine. Of this he speaks, in substance, as follows:—In small doses, administered internally, veratrine occasions peculiar pricking, stinging sensations, like those of electricity, in the extremities, shoulders, &c., followed by composing effects upon the portions of nerves affected with neuralgia, and somewhat after, with nausea, salivation, vomiting, flow of urine and diarrhœa. It ought also to favour the menstrual evacuation. Rubbed in externally, peculiar sensations of the skin are also excited by it, which reach, by means of the reflex action, upon other nerves under the influence of the spinal cord. M. G. does not believe that veratrine acts first through the blood, but, it appears to him, by the immediate specific irritations from the part to which it is applied,

at one time by reflex action through the spinal marrow, at another by irradiation and the laws of contiguity, without reference to the relation of tissue and function, and to the known connection between nerves and blood-vessels, to cause an uniform excitement and distribution of the nervous powers, and thus to remove the symptoms of pain and paralysis—as we see after rubbing it in upon the back or over the region of the heart, the strongest nervous palpitations, pain, convulsive cough, and nervous pains of all kinds allayed; and in the same manner, absorption (in cases of dropsy) favoured, and in many cases the urine evidently increased.

The indications for its employment are pain, cramp effusion and paralysis, the result either of effusion or of exhaustion. The chief contra-indications are, increased activity of the circulation, fever, inflammations in general. Against its internal administration are, *gastricismus* and organic disease of the intestinal canal. A great degree of torpor and of weakness does not prevent its employment, as it animates, especially when rubbed in, the sunken and irregular nervous action by the excitement it produces, without directly affecting the blood, in consequence of which strychnine is so dangerous. Care must be taken, however, not to employ it externally in marked inflammatory turgescence of the skin, and especially in certain erysipelatous, herpetic dispositions, &c., which so often manifest themselves in many dyscrasias.

Dr. G. employs veratrine internally in doses of the sixteenth of a grain twice a day, increasing it gradually, according to the susceptibility, the early or late occurrence of nausea or diarrhœa, to four pills and over. Externally, he prescribes 5-20 grains of it to be rubbed up with an ounce of lard. As, however, it is very expensive, and we can never reckon upon its acting very rapidly, he orders generally half to one grain of veratrine to ten to fifteen grains of lard, which may be used in two or three applications, and repeated if necessary. He always uses it with lard in children, and in women with delicate skins, or after recent inflammatory rheumatism, in which we are never sure, if it will, the part is in condition to bear it, even though fever and inflammation appear to be removed. Riecke recommends the veratrine to be dissolved in alcohol, and then mixed with the lard—a practice which M. G. approves of. In chronic cases, on the other hand, and when there is a torpid condition of the skin, M. G. employs a spirituous embrocation, which, indeed, he found effectual in much weaker doses of from 2-10 grains to the ounce. The rubbing in should be continued, according to the condition, ten to fifteen minutes, and until a pricking and burning sensation is experienced.

M. Gebhard has made advantageous use of this remedy in rheumatism, both acute and chronic—in the former, when after the subsiding of the fever, there remain gastric derangements and local pains which will not yield to the usual treatment, and in the latter, after long perseverance and when there is no alteration of structure. Since 1839, says M. G., I have treated about sixty cases of rheumatism of all kinds, among which only four did not experience a radical cure; and in these marked enlargements and ankylosis had occurred, and the patients, partly from impatience and partly from fear of the expensive medicine, sought other assistance. In all the other cases, there resulted partly an entire cure of the most unpromising cases, partly decided relief. I have never employed veratrine internally in rheumatism, only externally. For the most part, I have abstained from all internal remedies: in some cases only assisting the cure by means of colchicum, iodine—especially the latter, in combination with veratrine, in chronic swellings of the joints without pain, in which this treatment was very serviceable. In neuralgia, M. G. sustains the opinion of Turnbull, that veratrine is especially useful in those cases in which the pain is not fixed in any one point,

but spreads itself over the extremities of the nerves, as is the case in rheumatic prosopalgia.

In all, nine cases of prosopalgia have been treated by him with veratrine, four of which came under his care from the commencement of the attack, and were cured in from three to four days—the longest being seven to eight days—by means of veratrine rubbings. In two epidemics of whooping-cough, M. G. found that by rubbing in veratrine over the vertebrae of the neck and upper part of the back, there was great relief experienced where the second stage was protracted in its length. The striking influence of veratrine on the urinary secretions has often been ascertained in general dropsy, as well of the skin as of the cavities, especially in cases where no organic disease was apparent: even where this was evident, M. G. has often observed benefit, even if only of a palliative character. The cases treated were some of them the result of cold, causing, instead of inflammatory rheumatism, an enormous exudation into the serous cavities, and other secondary dropsies after previously existing inflammations. But more marked effects were observed in dropsies consequent upon long and exhausting disease; as, in particular, after a severe typhoid epidemic he observed.

The last disease noticed, and that to which M. G. first directed his experiments with respect to the employment of veratrine, is paralysis. In three cases of paralysis of the facial nerve, consequent upon colds, the frictions with veratrine were employed with the most complete success, the power being restored in from six to thirteen days. In two cases of paralysis after apoplexy, one in a man 74 years old and the other in a man 62 years old, after all evidences of congestion and irritation had been removed, by means of antiphlogistic treatment, and the paralysis alone was left, M. G. employed the veratrine frictions with entire relief of this symptom. These are the only instances of this affection which he has as yet had an opportunity to treat; but they were so successful that he would recur to the use of this medicine whenever a similar condition presented itself to his observation.—*Zeitschrift für Therapie en Pharmakodynamik*. Freiburg, Dec. 1844. No. 3.

## British American Journal.

MONTREAL, FEBRUARY 15 TH, 1846.

### PROFESSIONAL ETIQUETTE.

*Qui didicit patriæ quid debeat, et quid amicis,*

*\* \* \* \* \* ille profecto*

*Reddere personæ acit convenientia cuique.*

*Horatii Op.*

There is scarcely anything in a free country, where competition is nearly unlimited, upon which the respectability of the medical profession is so dependant as the strict preservation of that professional etiquette, which practitioners ought to acknowledge with regard to each other. Nothing can be clearer, than that the best, most scientific, and most enlightened practice must be looked upon with distrust and contempt by the community at large, when they see men engaged in the same pursuits, attempting to secure a livelihood by the same means, of, it may be, equal talents, discrimination and zeal, having recourse to the miserable trick of casting reproach upon each other's practice. What procedure is more likely to throw discredit on the science of medicine?

What more certain to degrade the profession in the eyes of the public, and to reduce to a level with the itinerant empiric and pretender, the man of education? Surely it will be conceded that the science of medicine cannot be benefited by such a course. It may prove advantageous to him who adopts it; it may be a means of garnishing well his pockets with the goods of this world; but sooner or later the miserable trick, the paltry subterfuge will be exposed, and the scorn and contempt of the profession which he has insulted and discredited, in his recourse to an expedient unworthy of an educated and an honest man, will as certainly not fail to overtake him. Every injury thus inflicted on the individual, is felt by the profession at large, of which he is a member. It cannot be otherwise, for in its very nature and essence, it casts discredit and disrepute on scientific practice, and opens wide the door for all the evils of unblushing quackery, between which and the former the distinctive characteristics become at once obliterated. Every medical man knows the susceptibility of the public to imposition of this nature. In fact, nobody knows better than he how easy it is to impose in this style, and how difficult it is to make people believe the imposition. It may be an invidious and thankless task to expose it. Be it so. We risk the thanks on what we conceive to be our duty, that of proscribing those vile attempts which destroy the confidence of the public in that honourable profession which most of our readers have selected, and the integrity of which each member is bound in his own person, to preserve and maintain.

It will often happen that practitioners, unless they have confidence in the honourable feeling, or the understood etiquette or usage which ought to be observed with respect to each other, will be brought into collisions, anything but agreeable. These would be entirely obviated were each to appreciate, correctly, the others position. The right that rests with the public to seek advice from whom they please, and change their medical adviser as they like, is clear enough, and not to be found fault with; their right to indulge their whims or caprices, or to act upon what may appear to be to them good and sufficient grounds, as the case may actually be, is undeniable, and may not be questioned. But far otherwise should it be with the practitioner. His duty towards his brother practitioner demands from him caution in the reception of patients under such circumstances, a caution emanating from a right appreciation of professional honour. He who possesses a high sense of professional honour himself, will be the last to violate any of the rules of professional etiquette. The two are inseparable, and are engendered the one by the other. In the latter there is no coquettishness: it is a sort of eleventh command-

ment; it is the medical man's substitute for a criminal code; and in general, will be quite sufficient among those who understand the duties and the difficulties of their profession.

But in the ranks of the Medical Profession, as well, doubtless, as in other walks of life, there are to be found men who are constantly violating the simplest rules of professional etiquette whenever the slightest opportunity presents itself. Among this class we may, without a doubt, find very many whose ignorance may afford a palliation for such conduct, and it might be charitable to attribute similar conduct on the part of all such transgressors to the same cause. We are constrained, however, to acknowledge the humiliating fact, that some are to be met with, for whom no such palliating excuse can be offered, who, poacher-like, would worm themselves into their neighbour's practice, under the mask of friendship for the patient and anxiety for his welfare; or pirate-like, would invade in an open manner the domains of their neighbours, and not only rob them of their patients, but denounce, in unmeasured terms, the practice which had been previously adopted in the case. The proper treatment for such men is PROSCRIPTION, as the surest and most effective way of teaching them their duty, that duty which they have violated towards their neighbour and their profession at large.

The observations which we have now made have been chiefly elicited by the Brandtford trial for slander, of which one of our antecedent pages will be found to contain a record. The topic is one of far too vital importance to the best interests of the Profession, of which our Journal is the only advocate in this colony, to be permitted to die silently away. At the risk of being charged with individualizing, we have taken the subject in hand, and have endeavoured to treat it in a general manner: and if the slightest good emanates from these remarks, in arresting a practice fraught with so much injury to the Profession, in the advancement and prosperity of which each member must take a lively interest, our object will have been accomplished. We cannot, in conclusion, however, avoid this reflection, that those who interfere improperly or tamper with their neighbours' patients and practice, must be classed with that species, who, living on the confines of civilization, become the scourge of their kind; whose appetite for receiving bears most usually no adequate proportion with what they give, or are even capable of giving; and whose habits and disposition being predatory, should receive a similar reward.

#### COLD WATER CURE.

Hydropathy is evidently on the increase in the United States, if indeed the establishment of fresh hydropathic institutions is to be taken as a criterion of the fact. One of these has been lately founded at Brattleboro', Vt.; another at Biloxi, Harrison Co., Missouri; one at Northampton, Massachusetts; another, in a viridescent state, exists at New Lebanon Springs, New-York; and Phila-

delphia, New-York, and Morristown, rejoice in similar institutions for the *prolongation* of life.

What the next chimera may be it is impossible to say; certainly nothing is too extravagant not to meet with supporters. Of the various pathy's, however, this one stands chief in point of absurdity, but the greater the absurdity the more likely it is to receive encouragement. As was truly, and rather sarcastically observed by a friend in talking of this mode of treating diseases, "it most particularly recommends itself to the attention of *young ladies having wealthy old husbands*."

At an Adjourned Quarterly Meeting of the Medical Board for this District, held on the 6th inst., the following gentlemen severally received certificates for license to practice,

#### As Physicians and Surgeons.

Hector Peltier, Esq., M.D., Edinburgh.  
William Aitken, Esq., Surgeon, Glasgow.  
Messrs. L. D. Lafontaine and Boniface Craig.

#### As Apothecaries.

Messrs. G. B. Sabine and William Brough.

#### Braithwaite's Retrospect.—July to December, 1845.

We thank the Editor for his attention in forwarding to us a copy of this valuable *recueil* of medical literature. This publication is undoubtedly one of the best digests of the existing state of medical knowledge of the day; and should be in the possession of every medical practitioner who desires to keep up his knowledge with the advancing progress of medical and surgical science. We therefore earnestly recommend it to the consideration of the Profession in this country, on the shelves of whose libraries no more instructive volume could be placed.

#### TO CORRESPONDENTS.

We have on hand several communications of which our limited space temporarily obliges us to postpone the publication. Among them are Dr. David's and Dr. Marsden's papers, the reception of which we noticed in our last number. A paper on "Purpura" has been received through Dr. Grassel of Toronto, and an interesting "Case of Poisoning by Camphor," from Dr. Reynolds of Brockville. These, with other communications, will receive early attention, commensurate with the space we have proposed to devote to the original department.

Our next number will contain the lecture "On the uses and abuses of Phrenology," lately delivered before the Natural History Society of this city, by the Rev. W. T. Leach, A.M. We feel persuaded that it will amply repay a perusal, and give as unequalled pleasure to the reader, as it did to a majority of its hearers on the evening of its delivery.

A number of business letters have been received. We particularly notice one from Dr. Taylor, (Ristigouche). Dr. Grassel's hint will be attended to. We shall endeavour to send the copies of the report by private opportunity.

We earnestly request those of our subscribers who are in arrears, to remit to the office the amount of their subscriptions.

#### BOOKS, &c., RECEIVED.

Boston Medical and Surgical Journal, Nos. 24, 25, and 1, 2.  
American Journal of Medical Science, January No.  
The Medical Examiner, Philadelphia, January No.  
The New Orleans Medical and Surgical Journal, January No.  
American Journal of Dental Science, December No.  
Dublin Medical Press, Nos. 361, '2, '3, '4, '5.  
Provincial Medical and Surgical Journal, Nos. 50, 51, 52, 53.  
Catalogue Medical Institution, Geneva College, 1845—6.  
American Journal of Science and Arts, January No.  
Buffalo Medical Journal, February No.  
New York Medical and Surgical Reporter, Nos. 8, 9.  
Braithwaite's Retrospect, July to December, 1845.  
The Medical News and Library, Philadelphia, Jan. No.  
Stockton's Dental Intelligencer, No. 3.  
Annual Report of the Bloomingdale Lunatic Asylum.

At a Meeting of the Medico-Chirurgical Society of Montreal, the following Tariff of Medical Fees was unanimously adopted, and Members of the Profession not belonging to the Society were requested to append their Signatures to it:—

## MONTREAL MEDICAL TARIFF.

	1st Class.			2d Class.		
	£	s.	d.	£	s.	d.
Single Visits from 7 o'clock, A.M., to 8 o'clock, P.M., (day visits,) - - - -	0	5	0	0	2	6
Advice at the Practitioner's residence, - - - -	0	5	0	0	2	6
Acute Cases, requiring more visits than one in the day; for each subsequent visit, - - - -	0	5	0	0	2	6
Evening Visits, (i. e. from 8 o'clock, P.M., to 10 o'clock, P.M.) - - - -	0	10	0	0	5	0
Night Visits, (i. e. from 10 o'clock, P.M., to 7 o'clock, A.M.,) - - - -	1	5	0	0	15	0
Detention during the whole night, - - - -	3	0	0	2	0	0
Consultation with a Physician or Surgeon, - - - -	1	5	0	0	15	0
For each subsequent consultation up to the fifth one, if not daily, - - - -	1	0	0	0	10	0
“ “ “ “ if daily, - - - -	0	15	0	0	10	0
Consultation by letter between medical men, - - - -	1	5	0	1	5	0
Written Advice and Certificate, - - - -	1	0	0	0	10	0

## VISITS TO THE COUNTRY.

To St. John's, { In Winter, - - - -	7	10	0	7	10	0
{ In Summer, - - - -	5	0	0	5	0	0
To Chambly, { In Winter, - - - -	5	0	0	5	0	0
{ In Summer, - - - -	2	0	0	2	0	0
To Laprairie, { In Winter, - - - -	1	5	0	1	5	0
{ In Summer, - - - -	1	10	0	1	10	0
Longueuil, - - - -	2	0	0	2	0	0
Lachine, - - - -	1	10	0	1	10	0
St. Laurent, - - - -	0	15	0	0	15	0
Cote des Neiges, - - - -	1	5	0	1	5	0
Long Point, - - - -	2	0	0	2	0	0
Point au Tremble, - - - -	10	0	0	10	0	0
Beauharnois and St. Anns, - - - -	5	0	0	5	0	0
Terrebonne, - - - -						

	1st Class.			2d Class.				1st Class.			2d Class.		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
In all ordinary cases of Midwifery, - - - -	5	0	0	3	0	0	Capital Operations, - - - -	20	0	0	10	0	0
Attendance with a Midwife, - - - -	5	0	0	3	0	0	Lithotomy, - - - -	30	0	0			
Extraction, - - - -	7	10	0	4	5	0	Cataract and Artificial Pupil, - - - -	20	0	0	10	0	0
Extracting Placenta, - - - -	2	10	0	1	5	0	Minor Operations, - - - -	5	0	0	2	10	0
OPERATIONS.							Removing Tonsil, - - - -	2	10	0	1	0	0
Bleeding, - - - -	0	5	0	0	2	6	Setting Fractures of Thigh, - - - -	5	0	0	3	0	0
Vaccination, - - - -	0	10	0	0	5	0	“ “ of Leg and Arm, - - - -	3	0	0	2	0	0
Introduction of Catheter, - - - -	1	0	0	0	10	0	Daily Prescriptions, - - - -	0	2	6	0	2	6
“ of Probang, - - - -	2	10	0	1	5	0	Extra Prescriptions, - - - -	0	5	0	0	5	0

A. F. Holmes,  
W. Nelson,  
F. C. T. Arnoldi, M.D.  
Henry Mount,  
Geo. W. Campbell,  
Robert L. MacDonnell,  
F. Morson,  
F. Badgley,  
A. Rowand,  
H. Nelson,  
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A. Hall, M.D.  
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Wm. Sutherland,  
Arthur Fisher,  
W. E. Scott, M.D.  
Daniel Arnoldi,

D. P. Brousseau,  
Frederick Cushing,  
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John Minshall,  
Roht. Godfrey, M.D.  
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A. H. David,  
Alexander Long,  
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J. H. H. Trestler,  
G. Wm. Coderre,  
L. P. Tavernier,  
C. A. Regnault,  
G. W. Trudel, M.D.

Published by Order,

ROBERT L. MACDONNELL, M.D.

Secretary Medico-Chirurgical Society.

February 15, 1845.

BILL OF MORTALITY for the CITY of MONTREAL, for the month ending JANUARY 31, 1846.

DISEASES.		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Measles, .....	44	53	97	30	49	11	6	1						
	Scarlatina,.....	1	1	2	1		1								
	Small Pox,.....	2	2	4		4									
	Hoping Cough,....	2	3	5	3	1		1							
	Fever,.....	20	25	46	9	20	5	5	2	2		2		1	
	Apoplexy,.....	2	1	3						1					2
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Convulsions,.....	2	5	7	5	1		1							
	Dentition,.....	3	2	5	3	2									
DISEASES OF THE RESPIRATORY ORGANS, .....	Consumption, .....	21	30	51	10	8	1		1	4	11	9	5	2	
	Croup, .....	6	8	14	9	2	1	1	1						
	Asthma, .....	1		1										1	
	Pleurisy, .....	1		1							1				
DISEASES OF ABDOMINAL VISCERA, AND CIRCULATING SYSTEM, .....	Intern. hæmorrh. ....	1	1	2				1					1		
	Dropsy, .....		1	1					1						
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Age or Infirmary,....	3	9	12										9	3*
	Inflammation,.....	3	1	4	2					2					
	Child-birth, .....		1	1							1				
	Accidental,.....	1		1		1									
	Still-born, .....	6	4	10	10							1			1
	Unknown, .....	2	2	4	2									1	
Total, .....		121	150	271	84	88	19	15	6	9	14	11	6	16	3

\* One a Female Canadian, aged 164.

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR JANUARY, 1846.

DATE.	THERMOMETER.				BAROMETER.				WINDS.	WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		7 A.M.	3 P.M.	10 P.M.
1,	- 6	+ 8	+13	+ 1.	31.44	30.28	29.98	31.33		Fair	Fair	Snow
2,	+16	" 21	" 20	" 20.	29.65	29.52	29.30	29.72		Snow	Snow	Snow
3,	" 22	" 23	" 20	" 22.5	29.43	29.57	29.70	29.57		Snow	Fair	Fair
4,	" 19	" 27	" 25	" 23.	29.82	29.86	30.04	29.91		Fair	Fair	Fair
5,	" 18	" 21	" 23	" 21.	31.18	31.24	31.32	30.27		Fair	Fair	Fair
6,	" 19	" 20	" 20	" 21.	31.06	30.39	30.33	31.39		Fair	Fair	Fair
7,	" 20	" 31	" 22	" 25.5	31.09	29.87	29.68	29.88	Omitted in consequence of the severe illness of the gentleman taking these observations.	Snow	Snow	Snow
8,	" 23	" 35	" 24	" 28.5	29.64	29.66	29.75	29.68		Snow	Fair	Fair
9,	" 20	" 21	" 15	" 20.5	29.84	29.86	29.87	29.83		Fair	Fair	Fair
10,	" 13	" 25	" 16	" 19.	29.82	29.78	29.70	29.77		Fair	Fair	Fair
11,	" 14	" 20	" 17	" 17.	29.67	29.59	29.60	29.62		Fair	Snow	Fair
12,	" 18	" 21	" 20	" 21.	29.67	29.71	29.83	29.74		Fair	Fair	Fair
13,	" 15	" 20	" 15	" 17.5	30.05	30.06	30.10	30.07		Fair	Fair	Fair
14,	" 20	" 26	" 31	" 27.5	30.00	29.97	29.90	29.96		Fair	Fair	Fair
15,	" 32	" 38	" 35	" 35.	29.96	29.86	29.83	29.86		Fair	Fair	Fair
16,	" 17	" 19	" 5	" 18.	29.95	29.91	29.90	29.91		Fair	Fair	Fair
17,	" 1	" 11	" 0	" 6.	29.94	29.96	29.97	29.96		Fair	Fair	Fair
18,	-13	" 0	- 3	" 6.5	31.28	30.13	30.22	30.21		Fair	Fair	Fair
19,	-10	" 6	+ 1	- 2.	30.30	30.35	30.45	30.37		Fair	Fair	Fair
20,	- 7	" 12	" 11	+ 2.5	30.45	30.38	30.16	30.33		Fair	Fair	Fair
21,	+13	" 20	" 2	" 16.5	31.00	30.02	30.07	30.03		Fair	Fair	Fair
22,	- 5	" 14	" 10	" 4.5	30.14	30.26	30.33	30.24		Fair	Fair	Fair
23,	- 2	" 14	" 7	" 6.	30.50	30.43	30.32	30.42		Fair	Fair	Fair
24,	+10	" 21	" 32	" 15.5	30.14	31.00	29.66	29.93		Fair	Fair	Fair
25,	" 33	" 40	" 25	" 35.5	29.65	29.67	29.85	29.72		Fair	Fair	Fair
26,	" 18	" 21	" 13	" 19.5	29.90	29.88	29.85	29.88		Fair	Snow	Fair
27,	- 2	" 16	" 6	" 7.	30.05	29.98	29.94	29.99		Fair	Fair	Fair
28,	+14	" 30	" 15	" 22.	29.86	29.99	30.23	31.04		Cloudy	Fair	Fair
29,	" 4	" 18	" 18	" 11.	30.27	30.17	29.96	30.13		Foggy	Fair	Cloudy
30,	" 31	" 37	" 34	" 34.	29.70	29.63	29.57	29.63		Rain	Rain	Rain
31,	" 13	" 19	" 2	" 16.	30.01	30.16	30.43	30.21		Fair	Fair	Fair

Therm. } Max. Temp., +10° on the 25th.  
 } Min. " -13° " 18th.  
 Mean of the Month, +17° 56

Barometer, } Maximum, 30.50 Inches on the 23d.  
 } Minimum, 29.30 " 24.  
 Mean of Month, 29.99 Inches.



**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—JANUARY, 1886.**  
*Latitude 43°. 39' 4. N. Longitude 79°. 21' 5. W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.			Tension of Vapour.			Temperature of the Air.			Humidity of the Air.			Wind.			Snow.	WEATHER.	
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.			
1,	29.694	29.469	29.229	29.364	1.33	1.76	1.90	29.0	32.3	35.4	33.3	.82	.96	.92	.91	—	Slight snow a.m., raining p.m.	
2,	29.907	29.835	29.042	29.962	2.15	1.98	1.48	36.6	35.6	32.0	33.7	1.00	.95	.82	.90	—	Rain a.m., snow p.m.	
3,	29.356	29.407	29.477	29.482	1.51	1.53	1.42	35.8	35.6	32.0	32.6	.91	.73	.78	.82	0.4†	C'd all day, hail to p.m., w'd fresh a.m.	
4,	29.543	29.528	—	—	1.41	1.64	—	29.6	34.7	—	—	.85	.82	—	—	—	Clouded.	
5,	29.716	29.832	29.934	29.861	1.44	1.71	1.48	29.8	34.6	29.0	29.5	.93	.86	.94	.91	—	Mostly clouded.	
6,	30.016	29.911	29.934	29.804	1.60	1.70	1.75	32.6	33.2	32.8	32.7	.96	.90	.95	.93	—	Clouded a.m., snow and rain p.m.	
7,	29.360	29.200	29.274	29.283	1.92	1.73	1.90	34.8	33.6	34.8	35.1	.95	1.00	.95	.96	—	Clearing slightly, w'd to h. & squally a.m.	
8,	29.415	29.478	29.573	29.506	1.70	1.53	1.62	36.3	36.3	29.6	31.5	.90	.78	.98	.89	—	Snowing slightly, occasionally.	
9,	29.547	29.555	29.563	29.553	1.46	1.38	1.32	27.8	29.8	28.6	28.7	.96	.83	.82	.90	—	Generally light detached clouds.	
10,	29.470	29.278	29.218	29.318	1.47	1.42	1.54	29.9	31.0	31.0	29.2	.88	.81	.89	.87	—	Overcast with dense haze.	
11,	29.186	29.190	—	—	1.50	1.65	—	28.2	24.9	—	—	.97	.92	—	—	—	Overcast, slight snow p.m.	
12,	29.339	29.438	29.627	29.623	1.21	1.13	0.80	24.6	24.9	18.1	20.8	.89	.82	.77	.84	—	Densely overcast.	
13,	29.786	29.818	29.738	29.760	0.68	0.97	1.04	9.7	23.8	22.6	21.1	.94	.74	.83	.82	—	Detached clouds.	
14,	29.662	29.615	29.636	29.630	1.30	1.52	1.40	28.0	34.8	28.6	28.0	.84	.74	.83	.87	—	Slight snow a.m.	
15,	29.646	29.509	29.552	29.550	1.28	1.81	1.87	24.8	40.2	38.0	34.9	.93	.74	.82	.82	—	Generally clear.	
16,	29.482	29.470	29.486	29.491	1.48	1.15	0.96	11.3	30.6	26.6	21.2	.86	.79	.81	.83	—	Halo a.m., hazy.	
17,	29.547	29.580	29.772	29.739	0.64	0.55	0.50	10.6	12.4	7.0	9.3	.85	.67	.77	.74	—	Halo a.m., hazy.	
18,	29.913	29.889	—	—	0.96	—	—	5.9	16.6	16.4	—	.98	.67	.77	.74	—	Overcast.	
19,	30.116	30.156	30.148	30.132	0.38	0.75	0.69	7.0	15.8	8.0	10.2	.60	.79	.87	.83	—	Clouded a.m.	
20,	30.073	29.893	29.622	29.822	0.67	1.14	1.11	9.9	9.4	24.6	19.5	.95	.92	.82	.88	—	Clear p.m.	
21,	29.506	29.525	29.712	29.659	1.12	1.26	0.78	9.93	22.2	25.6	14.1	.91	.89	.89	.88	—	Overcast with dense haze.	
22,	30.120	30.184	30.269	30.214	0.40	0.75	0.72	0.64	0.4	19.1	13.2	10.5	.87	.69	.85	.84	0.8	Overst a.m. Sn'g 9 a.m. to 4 p.m.
23,	30.319	30.181	30.041	30.142	0.61	0.94	0.82	0.62	5.4	21.8	16.1	15.7	1.00	.78	.87	.88	—	C'ly and uncl'd. W'd brisk w'th all day
24,	29.891	29.618	29.461	29.608	0.90	1.53	1.53	1.46	19.1	34.6	31.8	.83	.75	.87	.86	—	Clear. Auroral light in N. p.m.	
25,	29.498	29.544	—	—	1.68	2.26	—	—	34.0	39.9	—	.86	.93	—	—	—	Clouded a.m. Generally clear p.m.	
26,	29.322	29.246	29.420	29.363	1.91	2.15	1.57	17.5	34.0	37.2	30.4	.98	.98	.93	.94	—	Light clouds generally.	
27,	29.638	29.664	29.526	29.616	0.84	1.07	1.38	11.5	15.8	23.4	27.8	.90	.82	.89	.86	—	Raining a.m. Snow from 6 p.m.	
28,	29.583	29.658	29.722	29.677	1.59	1.65	1.77	16.6	31.6	36.8	33.3	.90	.76	.94	.86	—	Ceased sn'g 2 a.m., hazy all day	
29,	29.679	29.546	29.409	29.497	1.64	1.84	2.06	18.9	33.8	35.0	35.7	.85	.91	.97	.90	—	Densely overcast.	
30,	29.262	29.201	29.230	29.263	2.16	2.39	2.09	20.5	37.1	40.9	37.8	.99	.94	.93	.94	—	Overcast a.m. Raining from 3 p.m.	
31,	29.590	29.824	29.989	29.837	0.73	0.82	0.66	0.74	15.6	19.8	11.8	.79	.74	.81	.78	—	C'ed rat'ng 2 p.m. S'ly all day.	
Mean	29.627	29.596	29.610	29.614	1.26	1.43	1.34	1.33	23.6	29.5	26.1	.90	.83	.87	.87	6.0†	Su. a.m., day c'dy. C'ly p.m., w'd fresh.	

\* Rain, 0.700. † Rain not appreciable. Rain, 0.415. ‡ Rain, 0.375. § Rain, 0.070. ¶ Rain, 0.250. \*\* Rain, 0.250. †† Total Rain, 2.335.  
 To be corrected in the Register for December, 1885, { Temperature, at 7 a.m., on the 12th, for 2.4, read —2.4, or 2.4.  
 { Lowest Temperature,  
 Highest Barometer, .. .. . 30.335 at 9 a.m., of 33d.  
 Lowest do, .. .. . 29.829 at 3 p.m., of 3d.  
 Highest Temperature, .. .. . 44.0 on 33th, p.m.  
 Lowest do, .. .. . 10.8 on 23d, a.m.  
 Mean Daily Range, .. .. . 130.9  
 Extreme Daily Range, .. .. . 39.3 on 31st, p.m.—1st Feb, a.m.

Mean Temp. for Jan.  
 1880 17.7  
 1881 25.8  
 1882 27.8  
 1883 29.8  
 1884 29.7  
 1885 26.1

Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to the presence,  
 Under the head of Humidity of the Air, is given the proportion the Aqueous Vapour bears to the quantity the air is capable of retaining at the existing temperature, saturation being represented by 1.00.  
 The Instruments are Standard Instruments. The Rain Gauge 37 in. above the soil.—The Means entered are the Means by 24 hourly Observations, from 6 a.m. to 6 a.m.  
 The quantity of Rain received each 24 hours, is noted as 8 a.m., and is entered in inches.  
 The Observations entered in the columns for 7 a.m., or Sunday, is actually taken at 6 a.m. The two Observations taken on Sunday are not included in any of the means.

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 OF  
**MEDICAL AND PHYSICAL SCIENCE.**

VOL. 1.]

MONTREAL, MARCH, 1846.

[No. 12.]

**CASE OF EXOSTOSIS WITH CARIES.**

By WM. MARSDEN, M. D., Nicolet.

Louis Houle, of Ste. Monique, ætatis 50 in the spring, called on me on the 19th of August, 1844, with a large immovable osseous tumour on the back part of the right shoulder, corresponding to the situation of the scapula. In form, it resembled an obtuse cone, the diameter of whose base was about six inches. At the inferior angle of the scapula was a small opening, connected with two fistulous cavities, the one running transversely inwards, and the other, and more considerable one, upwards and slightly inwards, from which an offensive purulent discharge constantly exuded. The introduction of a probe gave a rough grating sensation, as if rubbing against a rasp.

The history of his case was as follows:—When about seven years of age, he fell from a gallery, and injured his shoulder; but no attention was paid to it for nearly two months after, when his parents, finding he had but a very imperfect use of his arm, took him to a *ramancheur* (bone-setter), who stated that the shoulder was dislocated, and pretended to set it. Notwithstanding this, he continued to suffer pain for four or five weeks longer, when it began to subside, and the use of the arm to return. When about ten years old, he perceived for the first time, a hard tumour (*bosse*) on the spine of the scapula, nearly the size of a filbert. It continued gradually to increase in size, but without pain; and when he had attained his twenty-fifth year (at which time he married,) his wife states, that it was about the size of a hen's egg. From this time, until the month of February, 1844, it continued regularly increasing in circumference until it had attained its present size, when, for the first time, he felt lancinating pains, which increased until April or May following, when it suppurated. Until February, his general health and strength were unimpaired; and he had never until then been prevented from devoting himself regularly to agricultural labour, but since, strength and appetite have both declined.

When I first saw him, on the 19th of August, he was pale and emaciated, suffering under great constitutional irritation, broken rest, impaired appetite and disordered bowels, occasionally lax but more frequently constipated. On examining the tumour, I at once advised its

removal as the best, if not only means of affording relief. Finding he had an insuperable aversion to its removal, until some other remedial means had been tried, I called in Dr. J. J. Hayes, who chanced to be on a visit to Nicolet, who added his recommendation to mine for its removal, but ineffectually. He consented, however, to allow the fistulæ to be laid open, but wished to try the effect of any medicine I might suggest, previous to performing the operation, to which he said he would consent, in the event of other means failing. I proceeded to lay open the tumour in the direction of the fistulæ, exposing the bones which I found carious throughout their course; but on turning back the integuments slightly, I found the caries was partial, and confined to the course of the fistulæ, and that the tumour was smoother and the periosteum entire where the caries had not extended; and that part of the tumour was more hard, compact, and brittle, than the carious portion of which I detached three or four small pieces; but he would not suffer more at that time. I injected a solution of nitric acid into the wound, in proportion of twelve drops to sixteen ounces of water, and united the edges with isinglass plaster, leaving room for the escape of matter. I ordered the solution to be injected into the opening, night and morning, with muriatic acid internally, and a nourishing diet, wine, etc. In giving muriatic acid, I did so, less with the hope of dissolving the calcareous matter, or at all acting on the assimilating vessels of the bones, than for its tonic and antiseptic properties, and on account of the tendency to constipation, which I hoped thereby to diminish. The foregoing plan of treatment was continued for nearly a month, when it was suspended by the patient himself, and nothing more done until the 29th of November following.

At this time, there was an irregular opening, about the same situation as the first one, and an irregular cavity extending upwards, from which a purulent discharge continued to flow. He informed me, that from forty to fifty small pieces of carious bone (*puant*) of different sizes had been discharged by the opening, since I had last seen him. His countenance was pale and anxious; pulse 94, tongue red and clean, respiration slightly increased, pain in the right hypochondrium, occasional

which they can be communicated and made intelligible to every understanding and the singular kind of satisfaction that arises from their application, (if the results of such application of them were true,) by way of forming a judgment of the character of others and measuring their capacities, were causes that could not fail to excite attention to them and win for them a very general favour, especially where evidence of a very taking kind and sometimes very convincing, could be always at hand and appealed to. The most remarkable circumstance, however, connected with the history of phrenology is this, that while there are very few who totally reject its doctrines—very few who do not admit that some of them are susceptible of a very surprising though restricted application, a very small number of persons distinguished for their general attainments and ability have adopted it in all its parts and regarded it as a science that has established any indisputable theory. This is the more remarkable, inasmuch as the study of phrenology is attended with few of those difficulties which bury or conceal their evidence from the cultivators of other sciences. Every head is a fact or rather a number of facts—almost every head can be seen or handled—no difficult instruments are required for observations, no long journeys, no laborious watchings, no expensive nor ingenious experiments. The phrenologist seeks for facts, he professes to build his doctrine on the foundation of facts alone—upon the rock of the Baconian philosophy, and facts are every where accessible and as abundant as the individuals of the species, the laws of whose mind he claims the discovery of, and professes to elucidate; all these advantages for the accumulation of evidence, together with the increase that years have made to the accuracy and extent of our knowledge of the anatomy and physiology of the human subject, as well as other animals in the order of their descent—for all these numerous and very obvious advantages, it cannot but be regarded as something remarkable in its history, that nearly all those most competent to pronounce a judgment on phrenology have rejected its doctrines as expounded and applied by its professed students and admirers.

Nevertheless the pursuits of the phrenologists have been productive of various beneficial effects, for which they are justly entitled to lasting gratitude and respect. Whatever be the fate of their system, whether it be received or rejected, and whether it be sound or unsound, it will be allowed on all hands that for the collection of facts which they have made and published, moral and intellectual science stands indebted for a valuable portion of its treasures, and that they have conferred incalculable benefits upon medical science by their contributions to the study and structure of the human brain. No medical student will be unwilling to concede the obligations which medical science has to acknowledge in favour of several

of the distinguished persons who have engaged so enthusiastically in defence of this their favorite system; and though it cannot unquestionably, in its present state, be taken as a theory of the mind itself—as a just exposition of the laws by which the mind acts, by exhibiting the brain as the organ of the mind and showing it to be more or less dependant upon the healthiness of its functions, it has provided, so to speak, both for the safety and improvement of the mind. Whether the brain be termed the organ or the medium, there is no doubt but that its state affects the mind itself; consequently, by investigating and ascertaining the causes that serve to impair the healthy exercise of its functions, or to destroy them altogether, what vast sources of evil may not thereby be removed, what a field, cleared for the most beneficial operations. If the causes that distress and injure it can be clearly pointed out, if you can describe before-hand the sources of its weakness, the quarter from which the attacks of its enemies are most formidable, the mind forewarned of the dangers that surround the brain, the agent of its counsel and action is thus armed beforehand and prepared to thrust away the threatened evil. It only requires to defend the outworks, to maintain unbroken the lines of circumvallation, and with an ordinary degree of prudence and potentiality may preserve its own sovereignty and sit a spiritual essence secure on the throne of its cerebral dominions. By directing attention to the functions of the brain, several mental phenomena which were before veiled in very great obscurity have been successfully explained by phrenologists;—for example, the effects produced in the mind by the too intense and over long continued exertion of the cerebral mass; the operation of this as an exciting cause of disease, and the effects of moral impressions upon the whole human economy, preserving or restoring the balanced powers, the health and tone of the constitution of man or undermining and destroying it. It is certainly to be ascribed to their exertions that the brain is now known to exert its so marvellous share of influence, supplying all other members of the system with the energy by which they are enabled to discharge their respective offices. It is now explicable how the mind suffers so exquisitely and directly with every shock or injury that may be sustained by the organs dependent upon it for the supply of that invisible and unknown power which the brain conveys to them for their sustentation; it is now explicable also how the structure of the brain can never be destroyed nor even be materially injured or disordered without producing a corresponding derangement of other organs. In the human economy the powers of digestion are the prime ministers of life. How close is their dependence upon the brain. Cut through the pair of nerves that act as a railroad between them, that form a direct and principal me-

dium of communication between the brain and the stomach, and the supply of the gastric juice is instantaneously stopped and consequently the powers of digestion are at an end. What becomes of the process of respiration when the spinal marrow is divided from the brain near their point of junction? It is admitted by anatomists that all organs performing most important functions in the human system, such as the urinary bladder and the rectum, the upper portion of the intestinal canal and the superior extremities will be completely paralysed by injury or division of the spinal chord. In fact all sensibility to external impressions and the power of voluntary motion are instantly lost to all members furnished and supplied with nerves from the spinal cord, when these nerves are given off from it at any point below where it is divided. There are indeed hundreds of facts which justify the phrenologists in ascribing to the brain its royalty or high rank at the head of the human economy. The description and classification of the causes that have the effect of impairing the perfect operation of its duties or destroying its ability—the exhibition of the means by which its powers can be best preserved in harmony and health, whether these means be moral or physical or prudential, (and they are means whose beneficial effect may be extended to every condition of human life, to every department of human activity and sympathy,) in these respects the value of the studies of the phrenologist is very great, their uses admirable and worthy of all honour. They suggest motives, they appeal to the reason and the manifest interests of mankind, and supply, in a degree, that knowledge which is necessary for self-government upon which the healthful and happy existence of the individual depends. It is true that these studies are not confined to the phrenologists and the honours due to a successful prosecution of them must be divided with others whose vocation it has been to labour in the same field without signifying an adherence to their creed, or perhaps homologating their errors, yet as so much is owing to the labours of the first phrenologists for the valuable additions they have made to the previous imperfect knowledge of the human brain, and to others for their useful applications of it, they may be ranked among the most meritorious of the benefactors of mankind.

That the doctrines of the phrenologists have some foundation in nature, there is no one, I believe, that denies. That there is commonly a correspondence between a well shaped head and individual character happily constituted and marked with general ability; that there is very often a remarkable correspondence between specific protuberances of the cranium and specific manifestations of a moral and intellectual description observable in the cases of individuals, I am so far from denying, that I could

\* By the term "organ," I do not mean the cause; I know nothing that can be warrantably asserted of the brain more than this, that in our present constitution it is the necessary condition and instrument of the mind.

appeal to observations taken in course of the last twenty years in evidence of this correspondence; on the other hand that this correspondence of protuberance with specific ability, or sentiment, or propensity, is universal, I deny. I reject the doctrine that this frequent or occasional correspondence is such as to warrant the phrenologist interpreting it as a law of nature that the diverse propensities, moral sentiments and intellectual powers, have their origin in and derive their force from distinct parts or organs of the brain, and that the size of these organs as exhibited in the protuberances of the cranium are measures of the force of these mental affections and powers. The system of phrenology in all the minuteness of its details, the general law which it assumes as its substratum, I reject, at the same time that I freely recognise the brain as the organ\* of the mind, the best type of the human head as indicating the best character, and a very common correspondence between some particular protuberances and particular manifestations of character. These are very important admissions and to persons unaccustomed to the species of reasoning which such subjects require, it may seem that all is granted that the phrenologist demands, that he requires little more for the establishment of his theory, and that his theory must be true, if so much is ascertained to be true. By no means; a theory may be utterly unfounded and fallacious, i. e., it may be no theory at all, nor have a particle of truth, although a variety of facts may be explained by the hypothetical assumption of it. To construct a theory, is to demonstrate the laws that nature follows in the particular department which is the field of investigation. A theory is admitted to be such when it satisfactorily explains all the phenomena that belong to its department. If it fails to accomplish this, it is not received as a theory at all; it is merely an inadequate attempt, a frustrate and defective effort to unriddle the rule of nature. The phenomena presented by the revolutions of the bodies that belong to the solar system are explained by the law of gravitation. Various and innumerable are the facts which it elucidates. It is complete, i. e., it is a theory. But let us suppose for a moment that one of the bodies of the system, having ponderosity, should be found exempt from the effects of its influence though manifestly placed within the legitimate range of it, here would be a flat contradiction of the assumed theory—a positive demonstration of its absurdity, proving that it never was such a thing as a theory. What establishes a theory, then, is evidence of its completeness to account for all the phenomena. Where the evidence is defective, it cannot be admitted; it has demonstrated nothing; it has ascertained no general law as the basis of a theory, it is no theory, it is no system; and if its rank as a science is dependent upon this demonstration of a general law, it is not entitled either to the name or the credit of a science.

As an instance of such defective evidence for an assumed science in many respects applicable, as seems to me, to phrenology, take that of physiognomy. Physiognomy has a foundation in nature as well as phrenology; it is specious in its reasonings, it is apparently confirmed by many striking facts. It is much more susceptible than phrenology of an extended and fascinating illustration. The zoology of all nature furnishes analogies among which the philosopher might revel to his heart's content in general probabilities and by which he might be enabled to give an imposing character to his doctrines and make a claim upon public attention. Physiognomy has some foundation in nature; there is the glare of the lion's eye and the grin or snarl of the dog, &c., and there are, no doubt, in "the human face a variety of peculiar muscles that serve no other purpose than to express intellectual or social emotions." In point of fact, these are commonly used by the observer as indices of human sentiment. But are these muscles, are the peculiarities of the brutal and human physiognomy to be interpreted as an infallible alphabet of the powers and passions and sentiments of the character? are they to be taken as the sure signs of the instinctive faculties? are these muscles to be labelled as the representatives and denoted as the measurable characters of the mind? These muscles are for the purpose of expressing emotions, but do they effect this completely? Can you push these rudimentary phenomena into a law of universal application? Can you make a theory of them? This is not the way of nature who, in her world of commencements, is apt enough to confound the dogmatizing of the theorist who seeks to push his conclusions too far and snatches at them too soon. All the teeth in nature were never *intended by nature* for the chewing of food, and let me say, with deference, that all protuberances in the region behind the ear may not be intended by nature for the purpose of smashing.

What these observations respect is this, that the admissions before made with regard to the very frequent correspondence between a particular protuberance on the cranium and some particular manifestation of moral or intellectual power are not corroborative of the phrenological theory. These correspondences may be true and yet the theory may be unfounded. Its views may have some foundation in nature and its conclusions may yet be false: moreover, that it is the only justifiable and philosophic course—that the history of human knowledge renders it imperative in a world ever teeming with the most plausible and captivating hypotheses in every province of science, to reject every presumed theory where an inadequate explanation of the facts shows an *insufficiency of evidence* for its adoption. I shall now proceed to show in what respects phrenology seems to me to *lack the evidence* which would give it a claim upon us, and

to intimate some of the abuses to which its disciples are led by the application of its assumed principles.

The division of the brain into thirty-five regions, each possessed of a distinguishing power, receives no authority from the anatomical structure of the brain. We should naturally expect that regions discharging offices so distinctive and so various would present some traces by which these organs so different from each other might be distinguished from each other. We look in vain, however, for the slightest vestige or shade of such distinction in the structure of the brain. No such thing is indicated by any membrane or line or diversity of fibrous structure. Nothing is perceptible to show the various boundaries of the different organs. The manner of dividing the cranium into numbers of distinct provinces is unwarranted by any visible internal divisions of the cerebral mass corresponding with these provinces. If any boundaries of organs exist, they cannot at least be discovered to exist. This fact may not be conclusive evidence against the existence of distinct organs, but it is certainly not in favour of the phrenological hypothesis, because on the supposition that there is no natural limit to the organs with respect to each other, it is impossible that one could be exerted without the others being exerted, it is impossible that one could be exerted in a great degree and the others not be exerted in a proportionably great degree;—and again it is impossible that the action of one could be suspended without the action of the rest being suspended. The supposition of distinct organs without any specific limitations would lead us to this; if the organ of conscientiousness is excited or active, the organ of acquisitiveness must be active; if the organ of benevolence is active, the organ of size or of combativeness must be active; if the organ of constructiveness is in action, the organ of destructiveness is in action, and all this be it observed at the same moment of time, the brain, upon the supposition of no distinction of parts, being an indivisible a homoeopathic and perfectly sympathetic substance. This would be a mechanism for the production of madness, than which it is impossible to conceive any thing more complete. The fact, however, of their being no *observable* limits to the different organs is not conclusive, because there *may be such* limits though it has yet been found impossible to detect them by any instruments of observation fine enough. All that we infer, therefore, from the above consideration is simply this, that the doctrines of the phrenologist derive no support from the anatomical structure of the brain, the very object of his investigation, and this serves to narrow the range of evidence by which his doctrines are to be sustained.

Again, the phrenological theory derives no support from the method of reasoning analogically upon the ascertain-

ed facts in the history of inferior species and orders of animals. We are naturally led to expect that animals exhibiting some of the like qualities would possess an arrangement of parts similar in proportion to the degree and number of those qualities manifested by them. We should naturally expect among the inferior vertebrate animals, according to their position in the sliding scale, some general corresponding defect in the region of the higher order of instincts. This is found, however, not to be the case. The corresponding and proportionate deficiency takes place, or rather *makes* it, not in the anterior but in the posterior region of the brain, a law the very opposite to that suggested by the phrenological hypothesis. On the other hand where we discover almost a total disappearance of the peculiar organization which phrenology associates with the animal instincts, we should expect to observe a defect and inferiority in the degree and kind of instincts possessed by the objects whose organization is thus defective. Neither is this expectation fulfilled. There is no hiatus, no distinction in the whole scale of animated being with regard to organization in the point in question so great as that between the vertebrate and invertebrate animals. Yet, there is no such diversity and inferior force of animal instincts as correspond to this very great difference and inferiority of cerebral organization. You cannot call the ganglia of an insect brains—brains then they must have in their gullet, in their thorax, their belly and their tail. You may as well make every nerve of their body an organ. The special organization which phrenology associates with the instincts is certainly not to be found where the instincts nevertheless are very various and powerful. The spider, for example, has undoubtedly instincts superior to those of fish, notwithstanding the vastly inferior style of its organization. Contemplate its instincts; what an organ of cautiousness would it require to have, what an organ of acquisitiveness and secretiveness, what an organ of size, and form, and order? Upon the whole, then, the doctrines of the phrenologist receive no support from reasonings founded upon any analogy that subsists between man and any other animal, although this is precisely the field whence we should have expected support to have been procured. This is all that I infer from the above considerations, and it serves, as you will observe, still to narrow the range of evidence by which the doctrines of the phrenologist are to be sustained.

The doctrines of phrenology give no satisfactory explanation of mental phenomena. If this proposition can be proved, it obviously deducts from the evidence of the reality of the law which is assumed to estimate the ability or power of the original faculties of the mind—i. e., it is evidence against the theory which is supposed to exhibit the law by which these faculties are estimated.

Causality, comparison, and order, are noted by phrenologists as three distinct organs, each exercising a special function and a different power. Causality gives the tendency, and is the power by which the relation of cause and effect is perceived. Now the objects of this relation, or the objects between which this relation is observable, are connected in the mind simply as antecedents and consequents. The detection of this relation can be discovered or become known only by the comparison of the objects. It is only by comparing them that any difference between the one object and the other can be detected; it is only by comparing them that any similarity between them can become known. The points of similarity to be discovered, in order to the perception of their relation as cause and effect, are the constancy and uniformity of their recurrence under similar circumstances or conditions, or the infrequency and irregularity of their recurrence. This knowledge is the result of the comparison instituted, and it can result from nothing else. Dr. Thomas Brown, the most distinguished philosopher of modern times for his ability, in mental analysis, discovers nothing in the relation of cause and effect, but the connection of the objects as antecedents and consequents. His organ of causality was not large enough on this the very question of his earnest investigation to discover the speciality of function which the phrenologists hold this organ of causality to exercise. But supposing that there is in each antecedent of a series of objects connected as causes and effects some particular inherent power to produce a particular effect, according to the popular idea of a cause—some unknown concentration of energy, suitable to some certain apprehended results, it is still by the comparison of such antecedent, with others of a similar nature and under the like conditions, that we predict a similar effect from it. It is still the *comparison* of objects, only of objects more compounded and various in their properties, that gives us the perception of their relation as cause and effect. All this then, I say, is the work of comparison. If there is an organ of comparison that gives the tendency and the power to compare objects in order to give us the knowledge of their points of resemblance and difference, the whole business of perceiving the relation of cause and effect, is begun and concluded by it. What then, I ask, is the duty—is the office of causality? Let the phrenologist show; he has two distinct sets of organs for the performance of the same operation. We have again the organ of order distinguished from those of comparison and causality, and likewise exercising a special function. What is the function then that it exercises? Is it right to say, that it gives the tendency and the power to arrange objects or ideas as we please, by the means of their various properties or our perceptions of these pre-



parties. It gives the tendency and the power to arrange objects. Now objects can be arranged or classified only by means of the similarities and differences of their various properties, such as time and place, colour and configuration, size and weight, &c.; and the perception of these similarities and differences belongs essentially to comparison; they are the result of it. It is comparison, then, that enables us to be sensible of order or arrangement, and the same that makes us sensible of disorder or confusion. The essential thing in order is some similarity or identity of property or properties. It is manifestly by comparison of these properties that we become cognisant of their similarity or identity, and by means of this that we are enabled to accomplish order or arrangement. Here again, we discover the same organs producing a tendency to the same mental operation, and giving the power of executing the same function. All that would remain for the organ in the mental process, would be to decide upon the eligibility of this or that juxtaposition of the forms or colours of the objects brought into comparison; and here again it would be performing the office of other organs, of that which gives the perception of cause and effect, pointing out the inconvenience of the juxtaposition; or of configuration, *giving offence* to the original perception of beauty of form or of colour, or otherwise agreeable and gratifying to these perceptions.

It was supposed by phrenologists that the organ of order bestowed upon the individual the power of philosophical generalisation; that it was the peculiar faculty by which we are enabled to see the one in the many; in other words, that it was the power by which we are prompted and enabled to apply that rule of all reasoning, whatever can be predicated of the genus may be predicated of the species and of all the individuals comprehended in it. If the above criticism is correct, it is not in possession of this sovereign prerogative.

There are various other parts of the phrenological system which I had noted with a view to a similar examination. There is configuration and colour and size—abstract colour and size from configuration; and what do you mean by configuration—abstract them from an object and you can have no idea of its configuration, and yet here is an organ said to bestow the tendency to observe and the power to express what belongs to other organs. It is the contrast of colours that gives us the idea of form abstractedly from magnitude. There is the organ of concentration—which is said to communicate to the other powers the powers which they are already supposed to possess by an organisation designed for them respectively—a general fund of power that has no specific office but to furnish a well out of which all the other powers may drink, when if their organisation had been satisfactory or fitted for their supposed ends, they would not

have required it. There is memory, which is not an organ, but a power separately possessed by each organ, of reproducing sensations and sentiments according to its kind, although there are sensations that are reproduced mentally, which the brain has no organ assigned to it for their reproduction, such as the sensation of smell and taste. How do we remember them? There is individuality that prompts the desire to know, and gives the power to know objects as mere existences or substances, it is said, without regard to their qualities, their modes of action or their effects. What objects can we possibly know in this manner? take away from objects their properties, their modes of action, and their effects, and *what are they* that you can know them? There is surely something fallacious in doctrines, which, when traced to their legitimate conclusions, leads us to these inconsistencies, something fallacious in the theory, thus defective in the explanation of psychological phenomena. Phrenologists are in the habit of pointing to *facts* as the basis of their system, let them appreciate these and they will find, if they are at all disciplined in the fallacies of science, that they do deduct from the evidence of their theory. That theory can never be established independently of such inquiries as those I have shortly entered upon. It is indebted to them for its proofs. It holds the doctrine of a correspondence between the cerebral organ and the mental operation. How can the mental operation be described without the reflection of the mind upon its own acts? How can it be known otherwise?

Phrenology professes to teach the degree of power with which the mental faculties which are inherent in individuals are endued: and one of the means which they employ, is admeasurement of the external protuberances of the skull overlying the respective parts of the cerebral mass, which parts are the organs of the faculties or powers. In this there is direct appeal to universal observation. There has been long enough time to test the correctness of this method, there has been abundance of objects for the application of it. If it had been found to be a steady and invariable rule of nature that the powers intellectual and moral of the individual, manifested in his character and actions, always bore a strict resemblance to the size of the protuberances which are taken to represent the powers, long before this phrenology would have borne down every thing before it, and could not fail to have been acknowledged in its entirety wherever it was known. Many objects, in whom the protuberances, and consequently the cerebral organ indicated the possession of great intellectual powers, have been found to possess them in no great degree. The largeness of the head, as a whole, is no measure of intellectual ability, when the intellectual organs are proportionally large. For a term of years, I had daily inter-



course with a head of this description. It was the largest head in the place. The owner always required a *hat* to be made for his particular use. All the intellectual organs were well developed, both intellectual and moral, agreeably to the proportion of his capacious head. He had every advantage of early training and constant practice through life, in literary and scientific pursuits, and had lived in habits of familiar intercourse with many distinguished persons of his country. He was not what you would call deficient, yet he reasoned only indifferently, he was far from being a good reasoner. He wrote and spoke with fluency. He was generally accurate in his observations of external objects, but upon the whole, his cerebral organisation would have led any one, and he has been examined by phrenologists, to an estimation of his character and powers far superior to what he possessed. It must indeed strike every one as fatal to the practical application of phrenology, that the range of difference between the same protuberance, bears no proportion, that it suffers by estimation between the actual powers of one man and another. If a person possessed of ordinary intellectual powers have a head of the ordinary size, Sir Isaac Newton ought to have had a head as large as the French Church, or a hay-stack at least; the phrenological measure can never be a measure of a disparity of powers so vast, as in this case and in every other where the difference is so great. What an organ of ideality ought Shakespeare to have had—we are not informed that there was anything monstrous in his appearance. No person could have distinguished phrenologically, with a distinction bearing any approximation to the faculties they actually possessed, Sir Walter Scott, Napoleon, or Pope, or Locke, or Lord Bacon. You will find heads very differently developed achieving the same intellectual victories equally well. Cases of this kind are so numerous, that phrenologists themselves have abandoned this test of size of protuberance as an invariable and accurate source of the knowledge of men's mental powers. It is fallacious by their own admission, and never can be used with certainty in any case; not even among tribes of savages, where education has introduced none of the manifold distinctions of civilized society. I say nothing of some of the anatomical facts, such as the largeness of the frontal sinus and variable thickness of the superciliary ridge, which must always be sources of error.

The uncertainty that cleaves to the measurement of the protuberances of the cranium as a means of estimating the inherent mental powers, it is attempted to supplement and remove, by taking in as an auxiliary means, the different temperaments of individuals. Exactly—before you can decide upon the internal by the external, you must consider a great many things which are themselves additional sources of error, and which complicate your

inquiry at every step as you go; you are to consider whether the individual is of a sanguine temperament or lymphatic; you are also to consider *what kind* of a body or brain he has, and how much he has exercised it, and whether he is old or young. What are temperaments? Are they also classified according to their properties and degrees of their properties? Are there instruments for measuring *them* also—graduated instruments? Are they each of them variable or invariable quantities? Variable and not to be measured. Look again what a gap for fallacious judgment. There is certainly in no one detail of the system. There is nothing which we can light upon as a constant and demonstrable law. Now what is the amount of evidence. Nothing surely that leads to the certain demonstration of the phrenological theory or of the law, that the mental powers have each and all certain distinct organs in the cerebral mass, which are to be ascertained and measured by the protuberances of the cranium. This is a law that has no authority from the anatomical structure of the brain; it has no authority from the cerebral development of any other species of animal; it fails in giving us an explanation of psychological phenomena—it is self-contradictory, assigning to diverse organs the functions of others; it is defective, some mental phenomena being altogether left out, and unprovided for by the system of organs. The external test of measurement is admitted to be fallacious, and the supplementary considerations are likewise in their very nature uncertain and intangible. It is surely not too much to say that such a theory is far from being established; it is not too much to deny its title to be received as such. All that appears to remain for certain in its doctrines, are the admissions before made, that in a number, a great number of striking instances, a correspondence has been observed between external protuberances and mental powers. The same thing can be said of physiognomy; the same thing can be said of the phenomena of dreams; some dreams are true, but are they all true, and always true?

I trust, in making these observations, no phrenologist will suppose that I am actuated by any dislike to the study, or that I have any objection to the prosecution of it. If it had seemed to me that anything I might have said, should have had the effect of abating any one's enthusiasm for the study, I should have said nothing. It will have been seen that I am not entirely an unbeliever in it, and if I have shewn that something yet requires to be done, let me hope that this will only sharpen the zeal and the cautiousness of its cultivators.

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*Twenty-fifth Annual Report of the Bloomingdale Asylum for the Insane, New York, 1846.*

The Bloomingdale Asylum is one of the oldest and best Institutions for the reception of the Insane in the

United States, and possess the advantage of being under the professional supervision of a gentleman, Dr. Earle, every way competent to the full discharge of the responsible duties with which he has been invested. There appears to have been a steady increase in the number of admissions during the last three years, the number for the respective years being 85, 106, and 138, and we regard this as an additional proof of the estimation in which this Asylum is held.

During the last year 138 patients were admitted, making with those remaining in the Asylum at the commencement of the year, 242, who, during the period specified, received medical treatment. Of these, 61 were discharged cured, 12 much improved, 20 improved, 20 unimproved, and 12 died, a proportion less than in the two preceding years.

After having enumerated in tabular form the exciting causes of the insane conditions of the patients admitted during the year, Dr. Earle, of whose pen the "Report" is the production, offers the following observations, which are well worthy of attentive consideration:—

While the exciting cause is often so clearly manifest as not to admit of a doubt, it is not unfrequently very obscure, and sometimes entirely beyond detection.

Nearly all the older authors agree in the opinion, that of the two classes of causes, the mental are more frequently productive of insanity than the physical. From more recent observations, it has been made to appear that the reverse of this proposition is the fact. This change of opinion may have been effected by confounding the remote with the proximate, the predisposing with the exciting causes.

Thus, it is possible that a large proportion of the cases arranged under the head of physical causes, in the above table, might be traced to some agent acting upon the mind. Intemperance, cerebral disease, epilepsy, typhus fever may be induced, and frequently are, by mental influences. With this view of the subject, the relative numbers in the two classes of causes might be essentially varied.

The number of patients admitted during the past year, as compared with the annual admissions for several of the preceding years, being assumed as the data upon which to found an opinion, the necessary inference is, that mental disorders are increasing. Whether the increase be in a greater ratio than that of the population of the city and its adjacent country, is a proposition which cannot easily be demonstrated. However this may be, it is an unquestionable fact, that the exciting causes of mental alienation were never in time of peace more active, among any people, than at the present day among the inhabitants of the United States; and particularly so in the States, which, bordering upon the Atlantic, were the earliest peopled by European emigrants.

Intoxicating liquors are so cheap that the labor of a few hours will procure enough to addle the brain for a week, and prevent the healthy exercise of reason perhaps a much longer period. The avenues to wealth, place and power are open to all: the child of the cottager thus entering into the strife of competition with the son of the most wealthy citizen. The progress of civilization and refinement, and the comparative ease with which the products of both nature and art in every quarter of the globe are here obtained, have a direct tendency to foster a luxurious life. Hence, human desires and human wants are greatly multiplied, while both mind and body are exerted to the utmost power of endurance to gratify the former and supply the latter. The almost unavoidable effect of the artificial mode of living thus produced, is either a debility of the system, or an augmentation of nervous excitability, either of which facilitates the invasion of mental disease.

Art has made advances so rapid towards the annihilation of time and space, that if life be measured by the proper standard—the number of events, circumstances, and conditions, seen, felt or

perceived—the amount of pleasure enjoyed and of pain endured—the people of the present generation have an existence of ten fold longer duration than their forefathers. As if this were not enough, the mind is forced into an activity corresponding with the new era of art. Children, before the body has acquired sufficient tone, or the brain sufficient firmness, to endure much mental exertion with impunity, are placed in schools where the intellectual faculties are unduly urged, while the physical exercise necessary to the due development of the frame is too often neglected. Under such circumstances, the head will expand, but the body cannot grow in size or vigour sufficiently to maintain "a balance of power."

If the child escape the more immediate dangers thus produced, he arrives at manhood with an unnatural susceptibility of mental excitement, as well as an increased disposition to diseases of the brain, by what causes never they may be induced. He enters the arena of life, and engages in the general struggle for advancement before alluded to. If a merchant, he is subject not only to the ordinary fluctuations of trade, but to those financial revolutions which appear to be consequent upon an unsettled policy of government, and an instability of the laws affecting commerce. Whatever may be his occupation or condition, he may become interested in some of the prevalent doctrines in politics, morals and religion, which are both maintained and opposed by a partizanship, a zeal, an enthusiasm, in many instances too nearly allied, it is feared, to madness.

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*The American Journal of Science and Arts, conducted by Professor SILLIMAN, B. SILLIMAN, junr., and JAMES D. DANA. Second Series. January, 1846. New Haven. Published on the first day of every second month. 8vo. fol. 152.*

The January number of this old, and valued American scientific periodical, is the first of a New Series, to appear on the first day of every second month. It was formerly a quarterly periodical; the object in this change, being in terms of the Prospectus announcing it, "chiefly to accommodate authors with more frequent opportunities for publication, and the public with a fresher posting up both of European and American Science." No difference is made in the price of subscription, which is retained at \$5 per annum, and which we consider low for the amount of valuable information afforded. The plan of the publication is still unaltered. The first part is devoted to original communications on scientific subjects, of which the present number contains nine; all of which are valuable. Among the authors we notice the names of W. C. Redfield, Esq., Rev. Dr. Morris, Dr. Leedom, and Professors Hare, Gray, and Twining. Two charts accompany this number to illustrate Mr. Redfield's paper, "on three hurricanes in the American seas, &c," one of which exhibits the track of the hurricane of September 1, 1842, the other the tracks of various hurricanes, as observed in the Gulf of Mexico. The second part is a resumé of new discoveries or facts in Chemistry, Mineralogy, and Geology, Zoology, Botany, and General Physics. In this department the editors possess several valuable collaborators, the consequence is that the selections are judiciously made, and embrace almost every feature of interest in connection with those rapidly advancing sciences. Fully persuaded, that the new series will

sustain the envied reputation enjoyed, and deservedly merited, by the old, we heartily recommend this periodical to the notice of our scientific readers.

*The Half-yearly Abstract of the Medical Sciences, being a practical and analytical digest of the contents of the principal British and Continental Medical Works, published in the preceding six months, together with a series of critical reports on the progress of Medicine, &c., during the same period, edited by W. H. RANKING, M.D., Cantab. Part 2. Vol. 1. July to December. Octavo, Fol. 373. American reprint. New-York: T. & H. G. Langley.*

We acknowledge the receipt from the publishers of the second part of the first volume of the above valuable digest of medical science. Two parts, together forming a volume of about 700 pages, have now appeared. The American reprint, which is well got up, is sold at the low rate of one dollar per annum. Besides containing a copious digest of important facts in medical and surgical science of a really practical character, like Braithwaite's, this number is furthermore enriched by a series of valuable reports on the various branches of medical science, as medicine, surgery, therapeutics, midwifery, and diseases of women and children, anatomy and physiology, physiological and pathological chemistry, forensic medicine and materia medica. These reports are seven in number, and embodying as they do, all recent observations, disclose the advancing progress which each has made. These reports present, therefore, an admirable and attractive feature in the publication, and one which will recommend it to the very favourable opinion of the Profession. We shall avail ourselves as liberally as possible of its contents.

## SURGERY.

[In Nos. 2, 6 and 7, of this Journal, we laid before our readers, the particulars of several cases of aneurism of the Popliteal and Femoral arteries, cured by compression, on the vessel above the tumour. We now present them with the details of a dissection of one of those successful cases, which is interesting not only on account of its being the first dissection that has been made since the re-introduction of this method of treating aneurisims, but also from the fact of the patient having been cured of two aneurisms, (one in each limb) by this most important improvement in surgery. We also subjoin the interesting discussion which followed the reading of the paper.]

### ACCOUNT OF THE DISSECTION OF A SUBJECT WHO HAD BEEN CURED OF POPLITEAL AND FEMORAL ANEURISM (IN OPPOSITE LIMBS) BY COMPRESSION; WITH OBSERVATIONS UPON THIS METHOD OF TREATMENT.

DR. BELLINGHAM said the case which he was about to read to the society was one of considerable interest in the present stage of the history of compression in aneurism; and the preparation which he had the opportunity of exhi-

biting to the meeting afforded additional proofs of the efficacy and permanency of this mode of treatment.

James Hayden, a servant, aged about 35, was admitted into St. Vincent's Hospital, December 19, 1845. He had been twice previously in hospital, having been admitted in March 1843, labouring under popliteal aneurism on the right side; the treatment by compression was adopted, and he was discharged cured in June of the same year. He was re-admitted in June 1844, labouring under femoral aneurism in the opposite limb; compression was again employed, and he was dismissed well in September of the same year, and returned to his occupation. He has been in service in the country since, and left it to come up for the last time to hospital.

He stated that about three months ago he began to suffer from pain in the chest on stooping at his work, or on stretching himself; this was slight, was referred to the left nipple, and only felt occasionally. After a time it increased in severity, and was referred to the region of the left scapula as well as to the nipple, and he described it as a scalding pain, resembling that of a blister rising. Six weeks ago the pain became much more severe and more constant, he was unable to sleep owing to it, and he has seldom since been free from pain.

The pain now is principally referred to the region of the left scapula behind, extending to the nipple in front; and sometimes shooting to the epigastrium, or to the right side of the chest. He can cover the space behind where the pain is most severe with three fingers, this is a little below the spine of the left scapula, near the centre of the space between it and the lower angle of the bone; its lowest point being about on a level with the fifth left rib. He describes the pain as having a boring or a burning character behind, from which it shoots to the præcordial region, or from the latter to the former. The pain is always more severe at night than during the day, increases about ten o'clock, p.m., and persists until four in the morning, during which period he gets no sleep; latterly, it has extended to the middle of the left arm. There is no pain on pressure at the part, indeed pressure rather relieves it. The pain is most severe and distressing a little above the lower angle of the scapula, and in the nipple, shooting from one to the other.

He states that while in the country he was bled, that blisters were several times applied to the seat of the pain, and that he has taken medicines, of which he does not know the nature, but without deriving the slightest benefit.

On examination the action of the heart is normal, its impulse indeed is rather feeble than otherwise, and its sounds are natural. No preternatural pulsation is to be detected anywhere, and the sound on percussion is clear over every part of the chest where it ought to be so. On applying the stethoscope in the left scapular region, where the severe pain is complained of, a distant and feeble double sound, resembling that of the heart, is audible; it is heard over a space about the breadth of the hand, from the spine of the scapula downwards, and towards the vertebral column; it is not audible below the fifth rib; it resembles accurately the feeble beating of the heart heard at a distance, and is accompanied by no abnormal murmur. On tracing it round by the left axilla it is lost, while the respiratory murmur is loud here; the double sound re-appears again as we approach the præcordial region, but here it is the ordinary double sound of the heart, which closely resembles the other, but is louder.

There is neither dyspnoea cough, or difficulty of swallowing; neither congestion or œdema in any situation; neither palpitation or feeling of pulsation in any part of the chest, nor can any be detected by the hand; no dulness on percussion in the region where the pain is complained of; no bruit de soufflet or other abnormal murmur; the pulse

at each wrist has the same strength and fulness. The patient complains of nothing but pain, and to all appearance is in perfect health.

December 25th. The patient complained that the pain had been more severe than usual last night; it commenced at ten o'clock and continued until four this morning, and extended from the left side of the chest to the left arm; it entirely prevented his sleeping, and he attributes its severity partly to his having omitted to take his opiate. This morning the acute pain had subsided, and he had had some sleep,—indeed he was asleep when visited. Between twelve and one o'clock this day, he was sitting up in bed, conversing with some friends (who had come to visit him) when he coughed up blood two or three times, became faint, leaned back, was slightly convulsed, and died in about ten minutes.

*Post-mortem examination.*—Body well formed and muscular. On laying open the thorax, the left pleura was found to be full of blood, which had coagulated, the crassamentum occupied the lower, the serum the upper portion of the cavity; it amounted to above two pounds, had pushed the heart over to the right side, and had come from a rupture of an aneurism of the aorta seated in the descending portion of the arch.

The aneurismal sac was about the size of a hen's egg, its walls were thin, and were necessarily injured in the removal, in consequence of its firm adhesions to the vertebral column; it sprung from the upper part of the descending portion of the arch, and was firmly adherent to the left side of the bodies of the fourth, fifth, and sixth dorsal vertebrae, the bodies of each of which were slightly corroded, that of the fifth being more so than the fourth or sixth, while the intervertebral cartilages were apparently uninjured. The orifice by which the aorta communicated with the sac was seated at its outer and posterior wall, and was of considerable size, its edges not as smooth or as accurately rounded off as in aneurisms of older standing. The contents of the aneurismal sac were merely a little coagulated blood, there was no deposition of fibrine. The sac had likewise formed adhesions with the upper lobe of the left lung posteriorly, and had burst partly into it, a portion of the lung here being infiltrated with blood, and the serous membrane readily separated from its surface at the part. This accounted for the expectoration of the small quantity of blood which occurred immediately preceding the patient's dissolution.

The heart was about the normal size, an unusual amount of fat was deposited upon its surface, which extended to some depth into the substance of the left ventricle; the scalpel was greased in laying it open; the cavities of the heart were all empty, the valves sound. The thoracic aorta was of the normal size, its coats not thickened, but its lining membrane presented patches of disease. The abdominal aorta was healthier. All the viscera in the abdomen were healthy; the lungs on both sides were from adhesions.

The arteries of the lower extremities were injected from the abdominal aorta, as it was of great importance to ascertain the condition of the vessels upon which the compression had been exercised. The femoral artery upon each side is seen to be quite pervious down to the site of the original aneurismal sacs;—on the right side (on which the popliteal aneurism had existed) to near the popliteal space; on the left side (where a femoral aneurism low down had existed) to the tendinous canal formed by the adductor magnus and vastus internus muscles.

At the site of each aneurismal sac the artery is quite impervious, and presents the appearance of a solid, thick, flattened band; and at these two points the vein is so firmly adherent to the artery that they cannot be separated. Indeed through the whole course of the femoral arteries upon each side the vein was more intimately attached to

the artery than in ordinary cases, so much so that had the operation by ligature been performed, the femoral vein could not possibly have escaped injury. The femoral arteries appear to be rather smaller than usual, while the profunda and all the branches which proceed from it, particularly the perforating and circumflex arteries, are much enlarged; the branches which come off before the femoral artery divides, are likewise enlarged. Below the site of the aneurismal sacs, the continuation of the canal of the femoral artery is contracted on both sides, and the anterior and posterior tibial arteries in each limb are diminished in diameter near their origin.

*Observations.*—The patient, the subject of the present communication, was (as I have observed) first admitted into hospital in March, 1843, labouring under popliteal aneurism of the right side, compression was employed, and he was dismissed cured in June of the same year. He was re-admitted in June, 1844, labouring under femoral aneurism in the opposite limb, compression was again employed, and he was discharged cured in September of that year, and remained perfectly well until about three months previous to his last application.

On admission last month he was to all appearance in perfect health, and none of the signs of thoracic aneurism, which are laid down in books as characterizing this affection, were present. Thus there was no external tumour, no abnormal pulsation or murmur in any part of the chest; he complained of neither palpitation, dyspnoea, cough, or difficulty in swallowing; there was neither venous congestion or oedema of any part; neither hoarseness or alteration of the voice; the pulse at each wrist had the same strength and fulness; the respiratory murmur was perfectly normal upon each side; and there was no dulness on percussion at any part of the chest.

The only general sign present was severe pain; and the only physical sign was a double sound, resembling the beating of the heart at a distance, which was audible posteriorly on the left side, about the situation where the pain was most severe. These two signs, taken in connection with the patient's previous history, led at once to the suspicion of thoracic aneurism—indeed the patient was himself under the impression that his disease was of this nature.

The patient obviously had the aneurismal diathesis, evidenced by his having twice previously laboured under aneurism of a large artery. He suffered very severe pain in the chest, referred to the situation of the descending portion of the arch of the aorta, which presented the characters Dr. Beatty and Dr. Law have so well pointed out as almost peculiar to aneurism of the aorta acting upon the spine, or when it occurs in a situation where the unyielding nature of the parts about it binds down the sac, and prevents it from enlarging. These signs, taken in connection with the feeble double sound, resembling that of the heart, heard posteriorly on a line above the fifth rib on the left side, and with the absence of the ordinary symptoms of aneurism of other parts of the aorta, led to the diagnosis of its seat being the descending portion of the arch.

The case, therefore, as an example of aneurism of this part of the vessel, is an exceedingly instructive one, and illustrates remarkably well the improvement which has taken place within a recent period in the diagnosis of thoracic aneurism. But as I wish now to call the attention of the society to other points connected with the case, I shall not dwell any further upon it; nor shall I delay to notice the connection which there would appear to be here between a fatty state of the heart and the disposition to aneurism in the large arteries, which would seem to be something more than a mere coincidence.

The principal point of interest connected with this case—indeed the object which induced me to bring it before

the society—is, that it exhibits the results of compression some time after a cure had been effected, and when the patient had remained well in the interval. As this patient had been twice the subject of aneurism, both of which were treated by compression, the preparation upon the table has still more value, exhibiting, as it does, the results of compression in two aneurisms cured at different periods.

As the treatment of aneurism by compression appears to be now an established practice in every case where the situation of the aneurismal sac permits of pressure being applied to the artery leading to it, there is no necessity to trouble the society with observations upon its advantages over the ligature. I shall therefore confine my remarks in a great measure to points illustrated by the dissection in the present case.

It was some time since, and perhaps with reason, urged against this method of treating aneurism, that the period which had intervened since its reintroduction was too short to allow a positive opinion to be pronounced as to the permanency of the cures, or the contrary. Here, however, we have demonstrative evidence that in fifteen or sixteen months from the date of the cure of an aneurism of the femoral artery by compression, the tumour has completely disappeared, the contents of the sac have been absorbed, and the artery at the seat of the aneurism has become quite impervious, so that it would be utterly impossible for pulsation to return, or for an aneurism to form again at the part. Indeed from the mode in which a cure is effected by compression, it seems hardly possible for the pulsation to return, though many instances have occurred where pulsation has returned after the application of a ligature.

Upon a former occasion I laid down the proposition, that to cure an aneurism by compression, such an amount of pressure is never necessary as would cause inflammation and adhesion of the opposed surfaces of the vessel at the point compressed. An examination of the preparation upon the table fully bears out the correctness of this proposition, as we see the femoral artery upon each side to be pervious and uninjured down to the site of the original aneurismal sacs, at which points only its channel is obliterated.

I also laid down the proposition, that it is not necessary to carry the pressure so far as completely to intercept the circulation in the artery at the point compressed, but that the consolidation of the aneurism will be more certainly brought about, by allowing a feeble current of blood to pass through the sac—in fact, that to apply compression successfully, the velocity and force of the current through the artery leading to the aneurism are to be diminished, while the amount of blood passing into the sac is to be lessened, by which the deposition of fibrine will be encouraged, until the sac no longer permits of the entrance of blood. A cure will then be effected in the manner in which nature, under the most favourable circumstances, brings about the spontaneous cure of aneurism.

This process is necessarily slow and gradual, and must take some time to be accomplished; but when the cure is rapid, and is brought about after the application of pressure for a few days only, (as happened in one of the aneurisms under which this patient laboured,) the period is apparently too short for such a result. Here the cessation of the pulsation in the aneurism, in all probability, depended upon the formation of a coagulum or clot in the aneurismal sac during the action of the compression, which, on the pressure being discontinued for a short interval, was impelled by the strong current of the blood into the vessel leading from the sac, and was so firmly impacted in it as completely to obstruct its channel; the circulation was then determined to the collateral channels, and a cure was effected in a somewhat similar mode to that

which follows Brasdor's operation for aneurism. If this is a correct view, it tends in some degree to confirm the theory upon which Brasdor's operation was founded; and that such a result might follow the employment of pressure is evident from what does occasionally occur in the cavities of the heart, when the circulation is much impeded and a coagulum forms, which is carried towards the orifice of the outlet of the blood, and either obstructs it or prevents the action of the valves, and so occasions the death of the patient. It appears probable also that this was the mode in which an unexpected cure was accomplished in several cases of popliteal aneurism on record, where a bandage had been merely placed round the limb, with a compress upon the tumour, and the patient was confined to bed.

There is a point connected with the employment of pressure in aneurism to which I have not before alluded, but which is illustrated by the dissection in the present case; it is that the mode in which compression effects the cure of aneurism seems to be more simple, and to require (if I may use the expression) less assistance from nature than the ligature. For instance, when a ligature is placed upon an artery in the usual situation at a distance from the aneurismal sac, to prove effectual it must cause the obliteration of the vessel at the point to which it is applied: the blood contained in the sac, or that which finds its way into it by the anastomosing branches (as there is no *vis a tergo*) coagulates, and the main artery of the limb comes eventually to be obliterated both here and at the site of the ligature; whereas, after a cure by compression, the artery is obliterated *only at the seat of the aneurism*. Indeed for this reason, the application of a second ligature higher up the artery, in cases where secondary hæmorrhage had occurred, almost necessarily fails, and we can hardly be surprised at gangrene attacking a limb, the main artery supplying which is obliterated at three points in its course.

In addition, the cure of an aneurism by compression is more likely to be effectual, and ought to be more permanent, than one treated by ligature; because in the former case the sac becomes gradually filled by fibrine, or the vessel leading from the sac is completely obstructed, and no longer permits of the passage of blood, although all pressure is removed; whereas, after the application of a ligature, a loose coagulum of blood alone remains in the sac, which does not fill it, and may or may not extend into the main artery; the parietes of the sac must therefore necessarily shrink considerably, and the artery supplying it must be closed up before the cure can be pronounced to be permanent. That this sometimes requires a long time to be effected, is shown by the pulsation having returned after a considerable interval in cases where the ligature had been used.

The only objection which it appears to me can be urged with any fairness against the treatment of aneurism by pressure is, that it will probably prove more tedious than the ligature. Admitting this (although in several of the recorded cases it was less tedious), yet when we take into account its perfect safety, its almost absolute certainty; and on the other hand, the risk, the danger, and the uncertainty of the operation by ligature, (particularly in the case of certain arteries) we cannot, I think, hesitate to give it the preference.

There appears to be but one form of aneurism in which compression is liable to fail—viz., where the tumour is formed by general dilatation of all the coats of the artery—in fact, where no true aneurismal sac exists; but in such a case it is very probable the ligature would equally fail. If the blood is very poor in fibrine, the treatment is likely to prove much more tedious than usual, or might even fail, as little or no deposition would take place in the sac under such circumstances, and the formation of a coagulum even would be interfered with by the rapidity of the circulation,

In such cases, before we commence applying pressure, we should endeavour to improve the condition of the blood, and to increase the quantity of fibrine in it by medicines and by proper attention to diet and regimen.

It has been urged as an objection to this mode of treating aneurism that it is not only tedious but painful. I do not mean to deny that pressure is not painful; indeed it is not unlikely some patients may find it so irksome as to call for the operation, the pain of which they consider will be only momentary, and of the danger of which they are ignorant. But after the pressure has been employed for a time, the pain diminishes materially, and there are modes of applying compression which occasion comparatively little suffering, but to which I need not here more particularly allude. I may, however, mention one which was employed in the present case, which could be continued for almost any length of time without occasioning pain, and which the patient preferred to every other mode. This consisted in a pad made of a piece of bandage rolled up, and laid upon the femoral artery as it passes over the ramus of the pubis, upon which a weight, sufficient to diminish materially or to check the pulsation in the aneurism, was placed, and maintained in that position by the patient as he lay in bed, with the thigh flexed upon the pelvis. It was an accident which obliged me originally to have recourse to this proceeding, the instrument employed having gone out of order upon a Sunday, when there was no possibility of having it repaired, it occurred to me to try the effect of this simple means. A four-pound weight was first used, this was subsequently changed for a seven-pound weight, which was found to answer remarkably well. I mention it here, merely because the same mode of applying pressure is stated to have been employed with advantage in a case reported some time subsequently, in which no allusion is made to its having been used previously—an omission which I am sure was accidental on the part of the reporter of the case.

As there appears to be some misconception abroad respecting the modern method of treating aneurism by compression, and as it is frequently stated to be nothing more than the revival of an old mode, I will take this opportunity of saying a few words upon these points. That it could hardly be the mere revival of an obsolete and abandoned method must be apparent to any unprejudiced person from the success which has attended its employment in so many cases recently: whereas formerly, success was the exception to the general rule; and that it is not the mere revival of an old mode of treatment is proved by the written testimony of the authors themselves who put it in practice.

For instance, the older practitioners who employed compression in the treatment of aneurism aimed either at obliterating the vessel at the point compressed, or they applied the pressure directly upon the aneurismal tumour, or they made general pressure upon the aneurism and entire extremity by means of a compress and roller carried round the limb. As might have been anticipated, they very seldom succeeded—indeed so seldom that the plan came, not only to be entirely abandoned by surgeons, but it is discountenanced in every standard work on surgery, and represented to be tedious, painful, and doubtful, and uncertain in the extreme,—in proof of which I shall delay to quote a few authorities, whose remarks, I may observe, refer only to the most eligible site for the application of the pressure—viz., between the aneurismal tumour and the heart.

Mr. Samuel Cooper (in his Surgical Dictionary) speaking of compression, observes—"In order that pressure may succeed, the coats of the vessel at the place where it is made must be sufficiently free from disease to be susceptible of the adhesive inflammation. Few patients (he remarks in another place) can endure the pressure of such an instrument a quarter of the time, when put on sufficiently tight to afford any chance of obliterating the artery, and on account of the

sufferings which they produce they are rarely used by modern surgeons."

Mr. Guthrie (in his work on Aneurism) observes—"The application of pressure by means of a spring pad has been tried, and has sometimes though very rarely, succeeded. The process is long, the pain great, and their is danger of the part sloughing; the pain, indeed, is so great that few persons can be persuaded to submit to it, and those surgeons who have tried it once will not again put it in competition with the ligature."

The cases of success which have followed the employment of compression, M. Begin (in the article Aneurism in the Dictionnaire de Medecine) observes—"Are few compared to the number of instances in which it has been tried. The difficulties in this method are inherent in it, and can be overcome by no instrument. No matter what precautions we employ—no matter upon what part we apply the compression, or with what care we graduate the pressure, it soon becomes painful, and in the great majority of cases unsupportable. The greatest courage and the firmest resolution are not equal to it."

Mr. Gibson of Philadelphia (in his Treatise on Surgery) observes—"Compression is now rarely resorted to, experience having proved its general inefficacy. The process has been found, moreover, even when successful, so extremely painful and tedious, that few patients can be induced to submit to it, or to persevere sufficiently long to accomplish a cure. That it operates partly upon the principle of the ligature (when it does succeed) there can be no doubt, by compressing the sides of the vessel, causing the effusion of lymph, and finally obliteration of the channel, so as to force the blood to abandon the sac, and pass off by the collateral branches."

Many other authorities might be enumerated; the foregoing are, however, sufficient for the present purpose. But we have seen that in the mode in which compression is employed now (for the cure of aneurism) the obliteration of the artery at the point compressed is never aimed at—indeed the amount of pressure necessary is not even so great as completely to check the current through the artery leading to the sac; neither is pressure applied to the aneurismal tumour itself, either of which proceedings would necessarily occasion so much pain that few patients would be found willing to submit to it; and the latter would probably do much more harm than good, and might occasion the rupture of the sac and the conversion of a circumscribed into a diffused aneurism. Nor is the application of a tight bandage round the limb, with or without a compress upon the aneurismal sac, advisable—indeed it would probably act rather injuriously than otherwise, by interfering with the return of the venous blood, or with the establishment of the collateral circulation, particularly with the enlargement of the articular arteries about the knee, which always increase remarkably in size, after the filling up of the sac, in cases of popliteal aneurism.

In conclusion, it may, I think, be laid down from what precedes, that the ancient and modern methods of employing pressure are essentially different; and although the two proceedings bear the same name, there is really no more resemblance between them than between the old operation for aneurism (in which the sac was laid open and the artery tied above and below it) and the Hunterian method, in which the vessel is tied at a distance from the sac and in a situation where its coats are healthy.

The PRESIDENT could not feel surprised, he said, at the demonstration of applause from the cross benches—though contrary to rule—upon the delivery of Dr. Bellingham's highly valuable remarks on a system of treating aneurism which solely belongs to our own day. Dr. Bellingham, he considered, was entitled to the highest credit for having pointed out the true principles by which we should be guided in the employment of pressure, which it had hitherto been deemed necessary to apply in such a way as to com



pletely obliterate the main trunk,—a proceeding which, as shown by Dr. Bellingham, so far from being necessary, is decidedly injurious. The object to be obtained by pressure is not to obliterate the artery by causing adhesion of its sides, but to obstruct and retard the flow of blood through it to a degree that will permit a firm coagulum to form in the sac, and thus to force the blood by the collateral vessels into the lower part of the limb. There is at the museum of the Richmond Hospital (the President observed) one of the most beautiful preparations perhaps extant of the collateral circulation after the successful operation of tying both femoral arteries in the same individual for popliteal aneurisms. These operations were performed by the late Mr. Todd. There is just now, also, in the Richmond Hospital, he would remark, an exceedingly interesting case under the care of Dr. Macdonnell, who tied the artery of one limb three or four years ago for popliteal aneurism. The man returned some time since with the same affection in the opposite limb, and pressure was employed, he was happy to say, with the most fortunate results, for their is now neither pulsation nor tumour to be found in the ham. As Dr. Macdonnell was present, he hoped he might trespass on that gentleman for a more full statement of this case. A great advantage attendant on this mode of treatment (the President observed) is, that when the patient complains much of pain at any particular point, the instrument may be shifted to another on the line of the artery.

Dr. MACDONNELL had great pleasure in laying before the society the heads of the case alluded to by the President. It was one, he said, highly interesting indeed, and corroborative of everything that could be said in favour of this new method of treatment in external aneurisms. He fully concurred in opinion with Dr. Bellingham, that the practice was entirely new, and one of the greatest improvements effected in surgical science since the days of Hunter. In his (Dr. Macdonnell's) opinion, all the credit arising from this very important addition to the science must be traced to the happy results of a case treated in this way by Dr. Hutton in the year 1842, and it was his belief that there are few names with which an advancement in surgical science could be more worthily associated than Dr. Hutton's. Dunne, the subject of the case, at present under his (Dr. Macdonnell's) care, about five or six years ago, got a large aneurism in the left popliteal space, but at this period the case presented no feature of particular interest. The ordinary operation at Scarpa's angle was performed, after which the man completely recovered, and Dr. Macdonnell saw nothing of him until about six months since, at which time he came to him saying, that a few days before, in lifting a heavy weight, he perceived a snap, accompanied with intense pain, in the popliteal space of the leg, opposite to that formerly operated on. He soon after felt a small pulsating tumour, which had but little increased in bulk when first seen by Dr. Macdonnell, who, at this time, recommended the man to come to the hospital, but he put off coming on some excuse or other for two or three months. On admission now, however, he was submitted to the treatment by pressure, the heads of which were simply these. A single instrument was applied at the groin, but owing to the imperfection of its construction, it by no means commanded the circulation, for pulsation was still to be felt at the ham; nevertheless, during its use, and while a more perfect instrument was being made, he felt satisfied that the case was progressing, as the aneurismal tumour was manifestly becoming firmer. As soon as a second instrument was procured, and the original one improved, it became possible, by using them alternately, one applied at the groin, the other about the middle of the thigh to command the circulation completely and extinguish pulsation in the aneurismal tumour; and by using them as long at a time as the patient could bear, sometimes for six or eight hours consecutively, pulsation at the ham entirely ceased in about two days, and has since—now a period of

two months—never returned, and the tumour has now diminished by absorption fully two-thirds its original volume. The man remains in the hospital at present more from the degree of interest attached to the case, and for the purpose of observation, than any other reason, for the cure may be looked on as perfected. Dr. Macdonnell would be happy to exhibit him and the instruments employed to any of the members of the society.

The PRESIDENT said that he had asked Dr. Macdonnell's patient on one occasion, when he complained of pain from the pressure used, whether he would prefer the treatment he was under or the operation; and the man's reply was, that he would much rather submit to the operation; but here the society must remember that this was the choice of an ignorant man who knew nothing of the dangers of such an operation. He would venture to say that there was no surgeon present who would not give the preference to the mode of treatment by pressure in all available cases, so that one should be very slow to give way to the complaints of patients under these circumstances. Knowing, too, as we now do, that pressure is not to be applied to the extent of obliteration of the artery, the compressing means may be removed for a time and again replaced. He looked upon this method of treatment therefore as an improvement of the highest importance, but the value of which, it appears strange, our English neighbours seem to be very slow in appreciating.

Professor HARGRAVE fully agreed in the opinions generally expressed in favour of the treatment of aneurism by compression in every instance in which that method could be made available, and it was of the utmost importance, he considered, to work out completely the establishment of the practice, the truth and value of which it is not possible to gainsay. The practice had clearly been revived in this country, first by Dr. Hutton, and afterwards so ably acted on by Dr. Bellingham. Yet, as he had just observed, the problem still remains to be worked out to its clearest demonstration; for even in Ireland itself doubts exist at the minds of provincial practitioners in reference to facts which had emanated from this very society. There are, undoubtedly, certain cases in which compression will not answer, an instance of which had been mentioned to Dr. Hargrave a few days ago by a gentleman who is a pupil. The subject of this case had been a patient in George's Hospital, London, some months ago, but was of so irritable a habit that he could not endure the treatment, so that the artery had to be cut down upon, and a cure was thus finally effected. With regard to the remarks of Dr. Macdonnell respecting the employment of partial pressure, that point, he might observe, had been investigated in an interesting manner in a case detailed by Sir Charles Bell which had occurred in a black. In tying the vessel below Poupart's ligament, pulsation was observed to have returned even before the patient was removed from the table. Sir Charles, turning to those present said—"It cannot be helped; all that it was possible to do had been done." The man was therefore put to bed, but died some days after of diffuse inflammation. Sir Charles, feeling great anxiety to ascertain the cause of the return of pulsation, found on examination the very rare irregularity of a double superficial femoral artery, coming off below Poupart's ligament; there had been notwithstanding this, a perfect coagulum formed in the aneurismal sac, thus establishing the fact, that only half-cutting off the the supply of blood is sufficient to effect a cure. A preparation of a similar irregularity is contained (Dr. H. observed) in the museum of our own college. He believed it and the one described by Bell were the only two instances of the kind on record. In reference to the symptoms indicative of the thoracic aneurism which proved fatal in the communication then before the society, he would allude to the single one of pain, which may now be considered as diagnostic of it, when much anxiety exists as to the true nature of the affection; a parallel case was presented to his own observa-



tion in the person of a strong, tall carpenter, of most regular and moral habits. For some months before his death he complained of nothing but intense, almost continued pain, referred to the inferior angle of the left scapula, circumscribed to a spot, the size of a shilling; also of an uneasy cord-like constriction round the edge of the thorax, for which he was bled, with permanent relief. The stethoscopic phenomena indicated healthy lungs and heart, and a normal condition of the thorax. No treatment relieved this pain; the man had been seen during Dr. Hargrave's attendance on him by Dr. Morgan and by Mr. Crampton. His death was sudden; as he was sitting up in bed he fell back and instantly expired. The post-mortem examination exhibited the lungs perfectly healthy; the heart slightly loaded with fat; the left pleural cavity was full of blood and serum; a long rent was found in the costal pleura, through which the blood had issued from a ruptured aneurism, situated in the commencement of the descending aorta, the bodies of three of the vertebrae—the third, fourth, and fifth—were eroded; some of the intervertebral cartilages also were destroyed, which permitted the blood to circulate in the spinal canal: this pathological specimen (Dr. Hargrave said) is to be found in Dr. Bevan's museum in Peter-street. Again, he would call on the surgeons of this city to work out this practical problem, as the character of surgery emanating from this society and this college had been impugned.

Mr. ADAMS entirely agreed with Dr. Hargrave, that much of the improvement in the treatment of aneurism by compression of the main artery leading to the aneurismal sac was to be considered as due to the exertions of Irish surgeons, although he would not be understood to say that the principle of compression had not been adopted previously. He would go so far back as the time of Mr. Todd, who had pointed out the advantages to be derived from the employment of compression preparatory to the application of the ligature, in order (as Mr. Todd said) to prepare the collateral channels for the reception of the increased quantity of blood thrown upon them as the result of the operation. Dr. Cheyne had also told Mr. Adams that the full report of a case of popliteal aneurism, successfully treated by compression at the Richmond Hospital by Mr. Todd, was placed by that gentleman in Dr. Cheyne's hands, and was intended for publication in the next volume of the Dublin Hospital Reports, but which the lamented death of Mr. Todd prevented. Subsequent to that time also, a case occurred under the care of the late Dr. Duggan, which would most likely be remembered by Mr. McCoy. The case of Scarlet a tide-waiter in the revenue, in whom a neglected popliteal aneurism became diffused, rendering amputation necessary, after which the man recovered. In two or three years after the man got aneurism of the femoral artery of the same limb, which was perfectly cured by compression with the instrument used by Mr. Todd, and which Dr. Duggan borrowed. The same man had been in the Richmond Hospital about two years ago from a complaint in the hip-joint. He might also remark, that Dr. Harrison had a case treated by compression in Jervis-street Hospital; in fact, in almost every hospital in town, cases of the kind had occurred; so that the question plainly resolves itself into one respecting the relative merits of the operation by the ligature and the treatment by compression, for as to the applicability of the latter practice, their could be no possible doubt. The President had alluded to a case of double popliteal aneurism, the injected preparations of the arteries of both limbs of which, he might remark, is contained in the museum of the Richmond Hospital. In this case both arteries had been tied by the late Mr. Todd many years before the patient's death, which took place under his (Mr. Adams) care in the Richmond Hospital from cancer of the stomach, and with the assistance of his friend Mr. Smith, he had made a beautiful preparation from the case. When the appearance of the in-

jected arteries in this case is contrasted with those now exhibited to the society by Dr. Bellingham, the difference is seen to be this, that in the preparation there is obliteration of the femoral artery to the extent of about half an inch at each side, while in Dr. Bellingham's case the vessels are pervious all through. The effect produced by a slower current of blood to allow of coagulation in the aneurismal sac had been the same in both, but was obtained in that treated by Dr. Bellingham by safer means. The popliteal arteries both in Dr. Bellingham's and Mr. Adams' preparations were obliterated to an equal extent. Nobody could have supposed, he said, that the autopsy would have shown so trifling a difference in the anatomical characters of the vessels. He had seen a case of aneurism high up in the femoral artery treated by Dupuytren by compression of the iliac, but the man had not patience to submit to the treatment, and called for the operation, which was performed.

Mr. McCoy would make a few observations in reference to the case mentioned by Mr. Adams, as one of the most remarkable perhaps on record in favour of the treatment of aneurism by pressure. He would not go into a particular detail of the case at present, as he had the honour to lay it before the society in full in 1843, in a paper he read on the subject of the present discussion, but though there was not an objection yet raised against meddling with an aneurism, not a discouraging circumstance attending the disease that was not to be found in that case. The man was of intemperate habits and reckless character; he had had a popliteal aneurism to which he paid no attention until one day going up a ship's side he felt something give way; the revenue surgeon was sent for, and Mr. Adams and he (Mr. McCoy) accompanied him, when it was found that the aneurism had become diffused, and nothing seemed possible to be done for his safety but to amputate the limb; this was accordingly done, and the man recovered in the usual time. Two or three years after this, the revenue surgeon was sent for again to see this man, and he (Mr. McCoy) accompanied him. An aneurism was found an inch and a half below Poupart's ligament, on the same side as the previous popliteal aneurism—it was the size of an egg, and pulsated strongly; an operation was deemed inexpedient for many reasons, and it was determined to try pressure, and Mr. McCoy was directed by his master, Dr. Duggan to apply it. Mr. Todd had the kindness to lend him his own instrument for the purpose—it was accordingly put on, and carefully attended to from day to day, and finally the tumour diminished in size, became solid, and a perfect cure took place, which to-night he had the gratification to hear was permanent to the present time, after a lapse of five or six and twenty years. Here was a case where two aneurisms had come on after a considerable interval on a very large vessel,—the second occurring where that artery bifurcates into two nearly equal trunks; where, from position, it was difficult to apply or maintain the necessary pressure properly, and in one he (Mr. McCoy) could safely say, who was never a day perfectly sober during the whole treatment. Every one conceded honour to him who introduced any improvement into surgical practice, but in his opinion a far higher honour was due to him who promptly laid it before the profession through the press for the benefit of society in general—he thought Dr. Hutton and Dr. Bellingham entitled to that honour in this instance. For himself he did not claim or desire any credit for being the first to draw the attention of the society to the chances favourable to the treatment of aneurism by pressure, as it was merely from the contingency of there being a disappointment in part of the business intended for an evening's sitting of the 8th April, 1843, that induced him to go home for his notes and read them at the meeting, as the secretary may remember. Among the excellent observations delivered by Dr. Bellingham, there

was one opinion he expressed of considerable practical importance, and to which he (Mr. McCoy) was disposed to give his full assent—namely, that it is not necessary to use such a degree of pressure on the artery going to an aneurismal tumor as to entirely obstruct the passage of blood through its canal, to ensure a successful issue; when the femoral artery is tied for popliteal aneurism it is no uncommon occurrence to find some pulsation on the following day, perhaps in the ham; Mr. Liston had a case some time ago which was cured, and in which the pulsation of the tumour continued for twenty-four days. Mr. Colles was of opinion that when pressure is applied to the artery at some distance from the tumour, it should be sufficiently firm to bring the sides of the vessel in contact so as to induce adhesion, while if the pressure be applied to the aneurismal tumour itself, it should be applied as loosely as possible. Mr. McCoy then alluded to cases of brachial aneurism, and a remarkable one of palmar aneurism, which he had himself succeeded in curing by the very slight pressure of graduated compresses of lint bound on with sticking-plaster, after failure by firm compression in some of them, the particulars of which he had laid before the society on a former occasion.

Dr. Hutton felt it necessary to make one or two observations in reply to some remarks that had fallen from the previous speakers. He believed that the case alluded to, and to which Mr. McCoy had borne testimony, had not occurred at the Richmond Hospital—at least no account of the circumstance had ever reached him, nor was he aware that such a case had been published. As to the question of priority of publication, Dr. Bellingham had in the handsomest manner, he said, mentioned his (Dr. Hutton's) name in connexion with the subject, and he felt assured Dr. Bellingham would not hesitate to admit that his (Dr. Hutton's) case, as also Mr. Cusack's, had first appeared in print. Dr. Bellingham had, in the opinion of all, worked out the matter in the most admirable manner. To him was due, principally, credit of having improved the practice; for himself he certainly claimed the credit of its revival, but he fully admitted that he had adopted Mr. Todd's principle of treatment.

Dr. BELLINGHAM said that Dr. Hutton's case occurred six months, and Mr. Cusack's two or three months, previous to his; therefore there could be no question about priority.

Dr. WILLIAMS did not mean to enter into a discussion of the practical part of the question under consideration, but as regarded what had been stated in reference to Mr. Todd's case, he believed there was no doubt of its accuracy. Shortly before that gentleman's death he (Dr. Williams) had been a pupil in the hospital, and the notes of the case had come into Mr. Cusack's possession, by whom they were given to himself, and, to the best of his recollection, he still had them. The case had certainly occurred at the Richmond Hospital; whether it had ever been published or not, he could not undertake to say. Mr. McCoy had inadvertently stated that it was.

Mr. SMITH would be even able, he believed, to mention to the society the exact date at which Mr. Todd's case occurred; it was in the year 1825, the year in which he had the honour of being bound to the learned President. He (Mr. Smith) was at the time a very young man, but he was sufficiently acquainted with the general fact, that ligature was the established mode of treatment for aneurism. Mr. Todd's death took place in six months, he said, after the date of his (Mr. Smith's) apprenticeship. He could point out the precise ward in which the patient lay, and also the position of his bed, which was placed next the fireplace, and behind the door. He had watched the case attentively to its termination, which turned out to be completely successful. The instrument employed was a sort of combination of tourniquet and truss.

Dr. Macdonnell begged to add that every man of any experience is aware that aneurism has been treated by compression for a great many years past, but the difference between all former cases and Dr. Hutton's is this, that the conclusion drawn by the profession from the previous cases was that compression was a practice to be condemned. These cases did not fructify, Dr. Hutton's has, and upon it the practice of compression in external aneurism has, he might say, been founded, and it will be the means of establishing fully this great improvement in the treatment of this disease.

Dr. Williams would by no means be understood to derogate in the slightest degree from the merit due to Dr. Hutton. He had accidentally become acquainted with Mr. Todd's case, to which Mr. Smith had given such accurate testimony; and he (Dr. Williams) felt it only right to mention what he knew himself on the subject. He would observe, in conclusion, that if possible he should produce the notes of the case, but he wished to state that it was possible, after a lapse of so many years, that he might not be able to get at them; he would again say, however, that this circumstance by no means interfered with the question of priority of claims in reference to the subject under discussion. The whole matter, he thought, was somewhat analogous to the question which lately occupied so much attention on the continent—namely, Callison's operation for artificial anus, which had, in the first instance, been universally condemned, but when Amussat took it up and demonstrated its practicability, it became universally recognized; for his own part, he considered a man entitled to so much the more merit for taking up and establishing as a valuable and practical method of treatment one which had previously got a bad name, and was, in fact, looked on as a failure.

Dr. Benson considered that the chief praise in the revival of this mode of cure was due to him who showed that the cure of aneurism could be effected by merely lessening the current of blood at the point of pressure. So long as obliteration of the artery there was supposed necessary, so long must failure be the consequence.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### GANGRENE OF THE VULVA IN AN INFANT TREATED BY THE ACTUAL CAUTERY.

The subject of this case was of the age of two years, of the lymphatic habit, but otherwise in a healthy state. At the time that it was admitted into the hospital (Des Enfants Malades) it had a gangrenous patch on the inner side of the labia majora, completely encircling the clitoris. No apparent cause could be discovered. The child had been tolerably well nursed, and did not appear in the least in a condition likely to give rise to mortification. When seen the next day the gangrene had made considerable progress, wherefore M. Guersent determined to lose no time in the endeavour to check it. As an external application, he touched the diseased part with an iron heated to whiteness; internally he exhibited wine and quinine. In spite of this treatment the sloughing gained ground, and a second and deeper cauterization was had recourse to. From this moment the disease was arrested; the eschar speedily detached itself, and disclosed a healthy granulating surface. The child continued the quinine for some time longer, and was discharged cured.

This form of disease is not uncommon in the crowded hospital for sick children in Paris, and, like the cancrum oris, appears to depend upon a general vitiation of the fluids, induced, mainly, by deficient ventilation; the action of the cautery was decided in this case.—*Gazette des Hôpitaux*, No. 66.

## ON GANGRENOUS STOMATITIS.

By JAMES F. DUNCAN, A.M., M.B., Lecturer on the Theory and Practice of Medicine, Park Street School of Medicine, &c.

The subject which is found to be so ably treated, and of which the following remarks are an abstract, is one which has, within the last few months, been invested with more than ordinary interest, in consequence of several medico-legal investigations which have been instituted in cases of ulceration of the mouth, with the intent of affixing the charge of *mala praxis* upon the medical attendant. The similarity between the disease in question, and the sloughing which occasionally follows the profuse use of mercury, is sufficiently close to excite the public in the error of confounding them. But it is full time that the profession should be better instructed in those distinctive marks, which, if rightly understood, will in all cases prevent misapprehension, and will enable them to rescue a brother practitioner from, in the great majority of cases of gangrene of the mouth, the unjust obloquy of having produced it by the injudicious use of mercurials. In furtherance of this object, the observations contained in the contribution of Dr Duncan are some of the best we have met with.

This gangrenous ulceration of the cheeks and gums has lately appeared in an epidemic form, in the establishment to which Dr. Duncan is attached, and, as will be seen, clearly depended upon an impaired state of the constitution, as the gangrene was not necessarily confined to the mouth, but in some cases attacked other mucous membranes, and particularly the pudendum. The ages of the patients varied from a year and a half to five years, and, in some cases, more than one member of the same family was attacked. The disease was usually preceded by a diarrhoea, a symptom which too often failed to attract attention, inasmuch as it was naturally attributed to the effects of dentition. "The children," observes Dr. Duncan, "did not at first seem to suffer from pain in the bowels, and could bear the usual amount of pressure without inconvenience. The alvine evacuations were either thin and watery, though not deficient in bile; or they were whitish and exceedingly offensive. In almost all cases, blood was discharged, either in a fluid state or mixed with mucus. When these symptoms had continued for a few days, the mother would mention that the child had a sore mouth, and on examination it would be found that the gums were ulcerated, and the fangs of the teeth exposed." As the disease advanced, the gums became spongy, and bled upon slight pressure. In no case, however, did the teeth fall out. Death seemed to depend rather upon the high fever which accompanied the local affection, and the persistence of the diarrhoea, than on any changes effected on the condition of the mouth.

This condition of the gums presenting a certain resemblance to the effects of mercury, might easily lead to serious mistakes as to the cause of the affection. In the present case, however, the author does not doubt the constitutional origin of the disease, as many of the children had been for months in the house previous to the attack, and had taken no medicine whatever; and as he had, moreover, been in the habit of exhibiting mercury freely in various infantile diseases, but had never witnessed the disease until the commencement of last winter. "Mercury," he observes, "so far from having a tendency to produce the disease, can be exhibited safely while it exists, and exerts rather a beneficial influence in checking its advance."

In the diagnosis of this and the mercurial affection, the author thus remarks:—

"The importance, therefore, of establishing a correct diagnosis between this disease and the common form of mercurial ulceration of the mouth is self-evident, and as all the reasoning about to be produced in support of the opinion, that mercury is in no respect to be regarded as an exciting cause of the disease, applies with equal force to cancrum oris. I shall take the liberty of referring to it at some length. It may fairly be inferred that the two affections differ only in intensity, the infant constitution in the one case yielding to the violence of the fever, before the gangrene of the cheek has developed itself. Many persons believe that although some cases of cancrum oris occur, independently of mercury, the majority of those usually met with arise from the incautious use of this medicine, and that blame is, of course, to be attached to those persons who have been the agents of its administration. Were this opinion to be sanctioned by authority, we should be obliged to abandon the use of this valuable medicine under all circumstances, for as no one can discover, before-hand, the presence of the idiosyncrasy which renders its use hazardous,

the only alternative would be the total disuse of mercurial preparations on the one hand, or, on the other, the risk of occasionally producing this dangerous result. But if it can be shown that mercury has nothing at all to do with the disease, all this unpleasant apprehension will necessarily vanish.

"It is quite plain that, in order to sustain the opinion that mercury is the real cause of cancrum oris, it would be necessary to prove that it never occurs except in persons to whom that mineral has been exhibited, a proposition which is known to be decidedly erroneous. Many cases are on record, where it has been ascertained that not a particle of mercury has been used, either internally or externally."

[Although few medical men, perhaps, maintain that mercury is the sole cause of the disease, there are many who hold the intermediate opinion, that it may be so produced in certain constitutions—the arguments with which such persons endeavour to support their opinions are principally derived from the situation of the affection, and the symptoms it produces. Dr. Duncan proceeds to examine their validity in these words:—]

"In cancrum oris, as well as in mercurial action, we have pyalism, fetor of the breath, ulceration of the gums, and loss of teeth; but these symptoms, carefully inquired into, do not present the same appearances in the two cases. In the first place, the salivation of cancrum oris is moderate in quantity, and the fetor of the breath does not present the peculiar and characteristic odor by which we are enabled to recognize the incipient effects of mercurial action. But the ulceration of the gums is, perhaps, the most satisfactory proof, because, unlike the ordinary appearance of mercurial ulceration, it is confined to a part only of the alveolar process. \* \* \* Not to mention the extreme rarity of mercurial action in children, it is well known, as Marshall Hall observes, 'that the effect of calomel, when it does take place, is uniformly diffused over the gums, the tongue, and internal parts of the cheek.'

"The arguments, therefore, adduced in support of the opinion, that the development of the disease is due to the action of mercury upon an unhealthy constitution, are without force. It remains to mention those arguments which have an opposite tendency.

"In the first place, the disease in question is almost exclusively confined to children, who are, as is well known, scarcely susceptible of the ordinary effects of mercurial action; very few instances of pyalism having occurred under the age of sixteen years. Cancrum oris, also, is a rare disease, while the use of mercurial medicines in infantile diseases is exceedingly common.

"Again, it is well known that the existence of fever is quite sufficient to prevent the usual physiological effects of mercury developing themselves, and that the manifestation of pyalism indicates a remission in the violence of the constitutional disturbance. Now it has been observed by the best writers on this disease (cancrum oris) that it is always connected with this very state of the system, in which it is so difficult to salivate the patient.

"But perhaps the strongest argument in favour of this view is that which is derived from the effects of remedies. I have already stated, that if mercury be the exciting cause of the disease, it would be worse than useless to administer any of its preparations in the subsequent treatment. It is a remarkable fact, however, that many cases have been thus treated, not only without injury, but with marked benefit." Dr. Cuming, of Armagh, (Dublin Hosp. Rep., vol. iv.) did not hesitate to use calomel as a purgative in these cases, and the author himself states that he has uniformly found mercurial purgatives preferable to any others in general use among children. [Other arguments in favour of the opinion that mercury is not the cause of gangrenous stomatitis, are based upon the fact that the gangrene in some cases attacks the pudendum and not the gums, in which case the mineral could not obviously be accused of the mischief. The paper is concluded by the relation of several highly instructive cases. The treatment confided in by Dr. Duncan consists in attention, in the first place, to the intestinal affection which precedes the gangrene. The cure of this is most readily accomplished by speedy and decided counter-irritation of the abdomen. The best internal medicine is acidulated decoction of bark, or infusion of calumba and nitric acid. To regulate the secretions hydr. c. creta, with Dover's powders is recommended. Wine was freely given in all cases. But little confidence is exhibited in local applications to the gangrenous parts.]—*Dublin Journal*.

# ON ŒDEMA OF THE GLOTTIS.

By M. DE LESIAUVE, Physician to the Bicetre.

[Laryngitis œdematosa, commonly known under the name of "œdema of the glottis," consists in the infiltration of serous or sero-purulent fluid in the submucous tissue of the larynx. The disease occupies especially the borders of the glottis, and the fold of the membrane covering the arytenoid cartilages, in which situation the cellular tissue is more than ordinarily lax. It was known to the ancients, and is described by both Hippocrates and Aretæus; in later times it has occupied the attention of Bayle, Bouillaud, Cruveilhier, &c. Bayle distinguishes two forms of œdema of the glottis, one idiopathic and arising spontaneously, the other consecutive, and subordinate to some other laryngeal affection.]

M. Bouillaud denies the existence of the idiopathic form, and regards the disease in all cases as distinctly inflammatory. MM. Legroux, Trousseau, and Belloc\* partake of the same opinion, and believe that idiopathic œdema of the glottis is an exceedingly rare affection.

Cruveilhier is still more exclusive, and rejecting the term œdema of the glottis, he describes the malady under the name of "sub-mucous laryngitis." MM. Bricheteau and Vidal (de Cassis), and, in fact, the majority of the pathologists of the present day, regard the disease in the same point of view, affirming that it depends in all cases upon inflammation, either primary or consecutive.

The author regards the œdema as unconnected necessarily with inflammation, and, therefore, subscribes to the opinion of Bayle, that there is one form of the disease which is idiopathic, and independent of inflammatory action. He treats of the causes of the affection in the following order:—]

**Predisposing Causes.** 1st. *Age.* With the exception of two cases, one of which was 8 years, and the other 7½ years old, all the instances occurring in the author's practice were adults. The majority were between the ages of 18 and 54.—2d. *Sex.* Lisfranc affirms that females are more liable to this disease than males. The author's observations falsify this: of 35 cases, 22 were men and 13 females.—3d. *Employment.* This is mentioned in 28 cases; among these sedentary occupations predominated; they were as follows: tailor, 1; shoemakers, 2; cook, 1; washerwomen, 2; sempstresses, 2; porter, 1; soldiers, 3; students, 2; labourer, 1; stone-mason, carter, and lawyer, each 1; and lastly, hospital nurse, 1.—4th. *Season.* The influence of season is difficult to determine; notes of this were taken in only 23 cases; of these, 3 occurred in January; 1 in February; 1 in March; 3 in May; 3 in June; 2 in July; 2 in August; 3 in November; and 3 in December.—5th. *Prior Disease.* A previously deranged state of health is a marked predisposing cause of this disease. Of 37 cases, 34 occurred in the course of other ailments. Of these, 7 occurred during continued fever; 2 in bronchitis; 2 towards the close of cardiac disease, with general dropsy; 2 during the desquamation of scarlatina; 2 in articular rheumatism; 1 after confinement; 1 as a consequence of severe uterine disturbance; 9 were the subjects of habitual cough; 3 were syphilitic; and lastly, in two there was considerable swelling and disorganization of the larynx and neighbouring structures.

**Exciting Causes.** Cold is, according to all writers, the most frequent exciting cause. Of 8 cases in which the circumstance was mentioned, this agent was accused in 6. M. Lisfranc places the abuse of mercury among the causes of the disease. In one of the author's cases the affection appeared to be induced by mercurial fumigations.

**Progress of the Disease.** The duration of œdema of the

glottis is indeterminate; generally, however, it proves fatal within the first week, unless the means employed are successful. The invasion may be sudden, but usually the access of suffocative dyspnœa does not occur until some time after the patient has complained of pain in the region of the larynx. The attacks of dyspnœa are very variable, both in severity and in the period of their occurrence; in some cases the paroxysm lasts five or six minutes, or even longer. As the fatal termination approaches, the duration of the paroxysms increases, and they become more violent. Symptoms then arise which indicate imperfect aëration of the blood, and the patient dies asphyxiated. In favourable cases the intervals between the paroxysms of dyspnœa gradually become longer, and in some instances a crisis puts an end to all danger.

**Symptoms.** The symptoms chiefly arise out of the obstruction to respiration; it is seldom that fever either precedes or accompanies the disease. 1st. *Pain.* The first symptom is generally pain of variable character; the patient has the sensation of a foreign body in the larynx, which he endeavours to dislodge by violent expiratory efforts.—2d. *Cough.* To the pain is added generally, but not universally, cough. This is generally short and dry.—3d. *Alteration of the voice.* This is one of the most remarkable of the symptoms. It becomes hoarse, stifled, and gradually more and more feeble, a phenomenon which depends not merely upon a narrowing of the laryngeal canal, but upon the loss of elasticity in the tumefied parts.—4th. *Respiration* becomes more and more short and hurried, especially in the night; at length suffocative dyspnœa, with paroxysms, occurs; as was remarked by Bayle, although inspiration is difficult, expiration is comparatively easy.—5th. *Deglutition.* This function is in general unaffected; sometimes, however, it is painful, but in such cases there is usually an extension of inflammation to the pharynx.—6th. *Expectoration.* This symptom has attracted but little observation, the secretion being for the most part scanty, and easily expelled.

[With this brief account of the symptoms of the disease, the author passes on to the consideration of the anatomical appearances. Bayle has remarked the persistence of the animal heat long after death, as a phenomenon coincident with the fluidity of the blood contained in the large vessels. The same phenomenon has been noticed by the author, but he does not venture upon an explanation of it.]

The œdematous infiltration sometimes appears in the form of a round, shining, pellucid ring, which may be either tense or flaccid, and somewhat gelatiniform. The contained fluid differs considerably in different cases. It is seldom found to be clear and serous, but most commonly consists of plastic lymph, which cannot be expelled without great difficulty. The seat of the infiltration is in those parts in particular which are below the rima glottidis, such as the chordæ vocales, the arytenoidean folds. The effusion is not, however, in all cases limited to these parts, but may extend both above and below. Thus the epiglottis on the one hand, and the mucous membrane of the upper part of the trachea on the other, may be implicated in the disease.

Independently of these lesions, which are peculiar to the disease in question, there are others which are in a measure the effects of the malady rather than of necessity connected with it. Such are the vascular injections and the ulcerations situated on the surface of the epiglottis; the erosions, ossifications, and caries of the cartilages; the abscesses, vegetations, &c., often found upon the chordæ vocales; and lastly the purulent and gangrenous deposits which are sometimes discovered among the muscles external to the larynx.

**Diagnosis.** As the author observes, the differential diagnosis of œdema of the glottis is a point of great importance. The affections most likely to be confounded with it are

\*Mémoires de l'Acad. Royale de Médecine, t. vii., p. 1.

acute laryngitis, croup, laryngeal phthisis, syphilitic vegetations, polypus of the larynx; aneurism of the aorta, tumors situated in the course of the trachea, enlargement of the thymus, (?) and retro-pharyngeal abscess. In addition to these, Bayle enumerates angina pectoris, and the crowing respiration of infants.—1. Acute laryngitis, and angina œdematosa, are thus distinguished by the author:—The pain in the former is severe and tearing; that of the latter is less acute, and is rather an inconvenience than actual pain; in laryngitis the expiration remains free, and those accesses of suffocation so common in the œdematous form, are not observed excepting in some few cases of unusual severity. The fever, moreover, precedes and accompanies the former, but is seldom observed in uncomplicated œdema glottidis.—2. Croup is a disease of infancy. Angina œdematosa, on the contrary, is rare at this period of life. In the former, the cough is harsh and ringing, the voice peculiar, the respiration whistling; in the latter, cough is not frequent, the voice hoarse and almost extinct, the inspirations are more convulsive, and less sonorous.—3. It is not easy to confound laryngeal phthisis with œdema of the glottis; the voice is hoarse and feeble in both, but in phthisis those paroxysms of suffocative dyspnoea which mark the latter disease, are not observed.—Venereal affections of the throat may be recognized by their being in general accompanied by other syphilitic symptoms, as blotches, nocturnal pains, &c.—5. Polypi of the larynx are not common, but when they do occur, are difficult of diagnosis. In some cases, their true nature cannot be ascertained until after death. The same may be said of laryngeal vegetations.—6. Foreign bodies in the larynx are generally the result of an accident, the occurrence of which may be clearly ascertained; if it were not so, the violent irritation which they produce, the sensation of a body moving up and down the trachea, the constant sensation of imminent suffocation, sufficiently mark the true nature of the case.—7. Retro-pharyngeal abscess may readily be mistaken for œdema of the glottis; there is, however, one sign, namely, difficulty of swallowing, which will serve to distinguish the two affections. All doubt may, in general, be removed by careful examination of the pharynx by the finger, when the site of the abscess will be clearly ascertained.—8. The convulsive asthma of infants offers considerable analogy to the disease in question, but a mistake may be avoided by the consideration that œdema of the glottis is not a disease of infancy, and that the spasmodic asthma has periods of perfect remission, which is not the case with the former disease.

**Prognosis.** Œdema of the glottis is a severe disease, but not an inevitably fatal one. The author saved fourteen cases out of forty-eight. The disease is more to be dreaded in proportion as the patient is debilitated, either by the disease, or by previous circumstances. The occurrence of inflammation is a severe complication.

**Treatment.** In the treatment of this disease, the author recognizes two periods, one in which the chances of cure are not remote, the other in which the disease must inevitably prove fatal, unless certain extreme measures are adopted. In the first period, the remedies most commonly employed, are bloodletting, emetics, purgatives, opiates, astringent gargles, &c. The author places but little confidence in bleeding, as might be expected from the foregoing views of the pathology of the disease; in this he differs from the majority of writers. Emetics are highly prized by him, as also are opiates; he also places great confidence in the production of ptyalism, by means of stimulating gargles. The action of mercury is considered by him to be too slow. The author refers also in favourable terms, to scarification of the œdematous ring, which is seen to surround the glottis, and cites the authority of M. Lisfranc in its support. The latter surgeon by this means cured six out of seven, in which it was adopted. The mode of per-

forming the operation is as follows:—"The jaws being kept apart by a suitable contrivance, a curved bistoury guarded to within a line of its point by lint, is guided to the part by the two fingers of the left hand, and a few distant scarifications are made."

The second period of the disease above alluded to, that in which all less hazardous remedies have failed, calls for the performance of the operation of tracheotomy. In order, however, that the operation should be successful, the author reasonably exclaims against its being delayed until death by asphyxia is imminent. The mode of operation preferred by the author, is the division of the crico-thyroid membrane, because by choosing this spot, we not only admit of the patient's respiring, but we are able at any subsequent time, as was pointed out by Vidal (de Cassis), to scarify the diseased parts by passing the bistoury upwards.—*Annales de Chirurgie*, 1844, '45.

[The same disease has been lately made the subject of a memoir presented to the Academy of Medicine by M. Valleix. The following remarks upon prognosis appear to us to be exceedingly judicious:]

"In pronouncing upon the degree of gravity from the symptoms observed, each case must furnish its own elements for decision. In a general manner we can only say, that if the strength yet continues, the pulse is regular and not deficient in power, if the features are not much changed, and the face is not livid; if the efforts to inspire are as yet energetic, and if the wheezing or other noise is heard in the larynx, with sufficient power to show that the air penetrates the lungs, we may have hopes that the disease will terminate favourably. If, on the other hand, the patient is prostrated; if his features are changed, his lips blue, his eyes haggard, his face cadaveric, if he has no longer the power to make effective respiratory efforts, if the inspiratory 'sifflement' have lost its energy, without respiration becoming deeper and easier, we must not allow an apparent calm to deceive us, for the patient is devoted to a speedy death."—*Notice in Medico-Chirurgical Review*, July, 1845.

## MUSCÆ VOLITANTES.

BY WM. MACKENZIE, M. D.

[*British and Foreign Medical Review*: from the *Edinburgh Medical and Surgical Journal*, July, 1845.]

The appearances seen before the eyes, known under the name of muscæ, are of two principal kinds, such as have both apparent and real motion, and such as have apparent motion only—motion depending on that of the eye itself. These two kinds of muscæ are distinguished by the names of *floating* and *fixed*, and are quite different in their nature.

**Floating muscæ.** These are the most common kinds of muscæ. Overlooking the real motion which these muscæ present, some have viewed them as subjective sensations, depending on some intrinsic change of state of the optic nervous apparatus. That they are truly objective sensations, however, occasioned by the presence of particles in the interior of the eye indeed, but extrinsic of, and in front of the retina, admits of mathematical demonstration. But more than this; the particles appear to be of normal occurrence in the eye, for the appearance of floating muscæ may in general be seen by any person, by simply looking through a small aperture in a card at the clear sky, or through the eyeglass of a compound microscope at the flame of a candle two or three feet distant.

On contemplating the spectra thus brought into view, viz.—the beaded filaments, the distinctly and indistinctly defined globules, and the watery-like filaments, called by Dr. Mackenzie, respectively, the *pearly spectrum*, the *distinct insulo-globular spectrum*, the *indistinct insulo-globular spectrum*, and the *watery spectrum*, it is observed

that they are situated in different planes, one behind the other, "that they never mingle with one another so as to change the order in which they stand before the eye, but the pearly spectrum always appears the nearest, then the sharply-defined insulo-globular, then the obscurely defined globules, and farthest away the watery threads."

**Seat of the particles the presence of which occasions floating muscæ.** A spectrum, like opaque spots surrounded by a halo, which occasionally seem to run together into dots, which again divide and disappear, and which ascend after every nictitation, which is sometimes seen and which appears to be produced by the layer of mucus and tears on the cornea,—called therefore, by Dr. Mackenzie, *muco-lachrymal muscæ*—has been confounded with floating muscæ, and the latter attributed to the same cause. That the particles which occasion floating muscæ, however, are situated in or behind the vitreous body, but in front of the retina, admits of being mathematically demonstrated, as also that they occupy different situations—those producing the pearly spectrum being the nearest to the retina, those producing the watery spectrum the farthest from the retina, the insulo-globular intermediate.

As to the nature of the particles, this admits of less satisfactory determination than their existence and seat.

The action on the light by the particles, whatever they may be, which cause muscæ, appears to be diffraction or inflexion.

Though floating muscæ thus depend on a cause extrinsic to the retina, their being ordinarily seen is owing to a morbid and excitable state of the retina,—a state, however, which has no necessary tendency to run into amaurosis.

**Fixed muscæ.** These appearances, which are in their nature amaurotic symptoms, never change their position either in regard to each other or to the optic axis. They have thus no real motion, but merely apparent motion depending on the motions of the eyeball. It often, however, requires some attention and power of observation on the part of the patient to distinguish real from apparent motion.

Fixed muscæ vary in number, size, and form. At first semi-transparent, they afterwards become black, or at least dark. They appear like blotches when the patient looks at a sheet of white paper. Fixed muscæ are owing to spots of the retina becoming insensible. The insensible spots are apt to increase in size gradually, until the whole retina is overspread with insensibility,—is amaurotic. Examples of temporary fixed spectra depending on natural states of the eye, are the vascular spectrum in Purkinje's experiment, and the phenomena of accidental colors and ocular spectra.

## MIDWIFERY.

### ON RHEUMATISM OF THE UTERUS.

By ISAAC TAYLOR, M.D., New-York.

(*American Journal of the Medical Sciences*, July, 1845.)

Rheumatism of the internal generative organs of the female appears to have been known as long back as the year 1685, when Dr. Charlton, of London, published an essay entitled "*Inquisitio de causis Catameniorum et Uteri Rheumatismo*." Since which time it has been noticed by several writers both in this and foreign countries. The latest authors who make mention of it are M. Chereau (*Mémoire pour servir à l'étude des Maladies des Oaires*), and Dr. Rigby (Reports on the Diseases of Females, Med. Times, 1844-5), who traces the connection between rheumatic affection of the ovaries and dysmenorrhœa. The disease appears most commonly to attack females towards the close of gestation, but may also appear in the unimpregnated condition. In the former case the intensity of the pain commonly gives rise to the suspicion that labour is far advanced, and from its similarity to true labour-pains can only be recognized as rheumatic by examination per vaginam. The diagnosis of the affection is thus laid down by the author:—

From *neuralgia* of the uterus it is distinguished by the fact that the former is more generally periodic in its character, the remissions being longer and more decided. The pain also is lancinating, and is chiefly confined to certain points. The patient is both able and willing to move about, the abdomen is not universally tender, but only on the points alluded to, neither is the distress of countenance so great as in the rheumatic affection. *Hysteritis* is distinguished by its access not being sudden or paroxysmal; by the existence of fever; by the pain being confined to the hypogastrium.

Spurious labour-pains are of frequent occurrence, and often harass the patient for weeks antecedent to labour; these, however, are readily distinguished from rheumatic pains. They generally come on in the night and terminate by morning; are uncertain in their appearance, the patient is able to move in any direction, and does so, being very restless. There is no tenderness, nor anxiety of countenance.

In natural labour there is not much tenderness, except during the last stage; the patient is able to move about; the pains come on regularly increasing in power till they reach their acme, and then declining.

Having thus briefly glanced at the various species of pain for which uterine rheumatism may be mistaken, the author gives the following observations as distinctive of the latter:—Rheumatic pains come on suddenly, soon become *expulsive*, and of many minutes' duration; remissions short; pain attacks the entire uterus, which contracts firmly, inducing the patient to scream with agony; the position of the patient is upon the *back, unwilling to move*; the slightest excitement of the uterus produces pain; tenderness of the abdomen is diffuse; countenance anxious from the first. When the disease terminates, it does so either by profuse perspiration or by discharge of urine.

The treatment consists in the exhibition of Dover's powder in ten or fifteen grain doses every two or three hours, with emollient applications or belladonna plaster to the abdomen. The extract of belladonna may likewise be rubbed upon the os uteri.

As the subject of rheumatism of the womb has not met with very general attention, we shall here bring before our readers one of the best accounts of the affection with which we are acquainted, extracted from a recent work by M. Cazeaux (*Traité Théorique et Pratique de l'Art de Accouchements*).

"Rheumatism of the womb," says M. Cazeaux, "after having long attracted the attention of the German practitioners, was but little known in France, when M. Dezeimeris, in his journal (*l'Expérience*), made public a series of facts already known and published by certain German authors. About the same time M. Stolz, who had become acquainted with the labours of our neighbours on this subject, studied the affection at the Clinical Hospital at Strasburg, and communicated the results of his researches to his pupils. One of these gentlemen, Dr. Salathé, has very recently defended a thesis on this topic. To his work, and to the bibliographical researches of M. Dezeimeris, I am indebted for what I am about to say upon this disorder, which is hitherto unknown to our French nosologists.

"According to Radamel, rheumatism may attack the non-gravid womb; but our business here is to study it only as occurring in pregnant women. It may attack at any stage of gestation, and we shall, therefore, alter some general considerations on the subject, point out the influence it may exert in pregnancy, in labour, and in the lying-in.

"**Causes.** All such circumstances as are favourable to the development of rheumatic affections, may likewise lead to an attack of rheumatism of the womb. Thus exposure, whether momentary or prolonged, to dampness and cold, insufficient clothing, sudden transposition from an elevated to a very low temperature, and all other causes, constitutional and atmospheric, regarded by medical authors as occasional or predisposing causes of rheumatism, may also produce that of the uterus. But, besides these general causes, there is one peculiar to the malady under consideration. I allude to the facility with which this organ, under the thinned integuments of the abdomen, feels the impression of cold in the latter months of pregnancy; the abdomen being guarded, where it incloses the uterus, by extremely light garments, which are closely in contact with it, and the antero-sacral region being often badly protected by jackets of insufficient length.

"**Symptoms.** Rheumatism of the womb often attacks persons constitutionally predisposed to nephritis. It may coexist with a general affection of the same nature; but, in a majority of cases



the uterus alone, and the adjacent structures, are the seats of disorder. It has, besides, been frequently found to be a consequence of the sudden cessation of rheumatic pain originally situated in some other part, and suddenly transposed to the womb. Whatever may be the mode of its onset, the disorder is easily recognized by very decided characteristic features. Its principal symptom is pain; where not the least violence has been offered to the organ, the womb becomes the seat of a general or partial pain, the intensity of which varies from the very slightest sense of weight up to the most insupportable agony. It may affect the uterus wholly, or only attack some particular part of it, as the orifice, the fundus, or the cervix. Where the rheumatism is fixed in the fundus only, the pain is felt in the region of the umbilicus. It is increased by pressure, by the contraction of the abdominal muscles, and sometimes by the mere weight of the clothes; the patient, often, is unable to move; if the disorder is seated lower down, there are shooting pains that run from the loins towards the pelvis, the thighs, the external genitals, and the sacral region, along the ligaments of the uterus. Lastly, when the cervix is the affected part, it may be known by the vaginal touch, which gives rise to excessive suffering. But of all the causes that serve to exasperate the pain, none is so distressing as the incessant motions of the child.

"Like other rheumatic pains, those of the womb are moveable, and are observed occasionally to pass suddenly from one portion of the organ to another. They often suddenly cease, and proceed to attack some other organ. This is most apt to happen, when the uterine rheumatism has been preceded by a fixed pain in some other part of the body, and where remedies are in use calculated to recall the pain to its original seat.

"These pains are characterized by frequent exacerbations that are variable as to their duration and intensity; according to the stage of the malady, they are succeeded by remissions, during which the patient only complains of a vague sense of weight.

"The pains of uterine rheumatism are generally attended with a degree of rectovesical tenesmus, which is violent in proportion to the severity of the pains and the approximation of the seat of the rheumatism to the lower segment of the organ. In such cases, the patient is tormented by perpetual desire to urinate. The discharge of the urine is accompanied with smarting pain, sometimes with severe pains, and in some instances the discharge cannot be effected at all; the efforts to discharge the contents of the rectum are, in some cases, equally fruitless. Most of the German authors attribute this double recto-vaginal tenesmus to the rheumatic disease, which is not always confined strictly to the uterus alone, but may likewise invade the circumjacent organs. M. Stoltz seems disposed to think that it arises from the close sympathetic relations of parts so nearly approximated to each other. Should these new pains be owing to a vesical or rectal rheumatism, those of the womb would disappear, or, at least, be diminished in degree, according to the views of M. Salathe in his Thesis.

"It is to be supposed that there is a degree of heat and swelling of the affected parts; but it is easy to perceive the difficulty of absolutely determining this point, one which we are compelled to admit from analogy.

"Pains of such violence, situated in an organ so important, must of necessity produce a pretty severe general reaction. The disorder, like most of the inflammatory diseases, generally commences with a slight rigor, which lasts fifteen or twenty minutes. The succeeding fever diminishes, or may even wholly cease during the interval between the attacks, yet while they last, it is commonly quite severe; the pulse is hard and frequent, the face flushed and excited, the tongue red and dry, the thirst urgent; the skin is hot, and the patient is often found to be extremely agitated and restless. Towards the close of the paroxysm, there frequently supervenes a copious sweat, which seems to be the harbinger of a decided improvement. After this, these general symptoms are appeased, together with the uterine pains, only to reappear with them, after the lapse of a few hours, or even of several days.

"1st. *Influence of rheumatism on the progress of pregnancy.* Where the attacks may have persisted for a length of time, or where they have been very violent, they are followed by uterine contractions, and may, in this way, bring on premature delivery. In such a case, the patient suffers from severe tensive pain. This feeling of tension is not equable, for it rises to a great height, and then subsides—to begin again and pursue the same course at different intervals. At first the womb becomes partially, and afterwards universally hardened during the pain. The cervix becomes

rigid and partially dilated, but its dilation is at first slow and difficult, and its subsequent progress does not correspond with the pace of the pains. The abortion, with which she is now menaced, is more likely to take place in the febrile than in the apyretic form of rheumatism. Indeed, abortion is not so common an occurrence in the case as might be presumed. In some instances the os uteri has been observed to dilate to the extent of two or three centimeters in diameter, the bag of waters has been formed, and afterwards withdrawn little by little, the orifice closing again, and all symptoms of labor wholly to disappear. As long as the diameter of the os uteri does not reach the extent of five centimeters, we may reasonably hope to put off the labor. Those uterine rheumatic pains may simulate labor-pains, and lead to the belief that they are really labor-pains, while in fact they are not at all so. The characteristic signs of the rheumatic pains, given in the following paragraph, should serve to prevent such a mistake. It is surely to mistakes of this kind that we ought to refer those cases of supposed protracted pregnancy, and those instances of real labor, begun, and suspended again for weeks, and even for months together."

On the 21st January, 1842, Mrs. O., aged 28, in her first pregnancy eight and a half months, was suffering with the symptoms of severe rheumatism of the womb, which had afflicted her since about the 12th of the month. On the 15th of the month, fearing that labor was begun, I examined and found the os uteri dilated fully a quarter of an inch, and the cylindrical tubule of the cervix wholly gone: but on the 29th of the month, or fourteen days later, during all which time she suffered more or less, the os uteri was not only closed up, but the cylindrical tubule of the cervix was reproduced, and continued so until her child was born, on the 16th day of February.

About three years since, a lady, a missionary, landed here from a voyage from Madras, of one hundred and twenty days. She walked a good deal on the day of her debarkation, and was seized with the signs of labor the same evening, being not quite eight months gone with child. The pains were strong; I found the os uteri an inch and a half in diameter, with the membranes tensely drawn across the opening. The labor was suspended in the night, but returned again the next afternoon; and during the twenty-four days that she continued to be annoyed, more or less, with signs of labor, the os uteri never closed, and at the end of that time she gave birth to a small, but healthy male child. I have had many occasions to see persons threatened with labor, and even precipitated into it by rheumatism of the womb.

M. Cazeaux says nothing of the diagnosis, which I regard as one among the most difficult that can be presented to the mind of a physician. To make the diagnosis between pleurisy and pleurodyny, is often a very difficult task, and one of considerable moment too; but to make out satisfactorily all the points of difference betwixt rheumatism of the womb and the acute inflammations of the organ, especially in the lying-in, is still more momentous. Rheumatism is, so far as my experience of it enables me to speak, most apt to attack very nervous and susceptible women, who have become weakened and reduced in strength, from whatever cause. In such subjects, it is highly desirable to get through the case without much resort to the stronger antiphlogistic measures; but if we mistake an intense metro-peritonitis for a case of rheumatism of the uterus, we shall abstain from any vigorous and eradicated employment of the lancet, under the vain hope of curing our patient by milder and less costly processes than the exhausting venesections which are so indispensable in the true inflammation.

I have had such great difficulty in settling, to the satisfaction of my own judgment, the diagnostic difference betwixt the two maladies, in several violent cases that have fallen under my notice, within a few years, that I should be thankful for the indication of a clear method of coming to the decision. In both maladies the fever often violent; in rheumatism uteri there is rheumatic neuralgia of other parts, and a preceding history, that may enlighten the practitioner to his decision. In the two diseases there is equal sensibility of the abdomen; meteorism may accompany both. The heat of skin, and frequency and volume of the pulse, are alike in each, the decubitus similar; but the tongue is clean, so far as I have noticed it in the rheumatic case. Distracted with the uncertainty and doubt in which the case is involved, I have commonly been able to satisfy my mind by a direct appeal to the organ itself, in the operation of *touching*. In both maladies the *ouch* is at first painful; in metritis and metro-peritonitis it is so tender all circumstances, but in rheumatism uteri, though the



first touch of the womb is painful and quick, yet, when the organ is gently and slowly raised upward with the index and medius, the pain either ceases wholly, or is much mitigated, by taking off in this way the tenesmus uteri; not so in the inflammation, where every touch is more painful the more it is prolonged. I may be permitted to add, that I have heard of several cases of death from puerperal fever, where, upon an autopsy, not the least vestige of inflammation was discovered, either in the peritoneum, the uterine veins, the substance of the uterus, or any of its appendages. Is it uncharitable to suppose that such patients died, not with the malady for which they were treated, but with another disorder, to wit, rheumatismus uteri, which demanded quite a different mode of cure? But I fear to extend this note too far; and therefore, M. Cezeaux proceeds as follows:

"2d. *Influence of rheumatism upon labour.* An attack of uterine rheumatism generally retards the progress of a labour, and sometimes even renders the spontaneous expulsion of the fœtus wholly impossible. In addition to the general phenomena I have described, there are here some special ones to be met with. 1st. It is well known that a normal contraction does not begin to be painful until it has accomplished the greater part of its task, and is in the act of dilating and distending the os uteri: in other words, the true pains of labour do not begin until the instant at which the energy of the corpus uteri begins to overcome the resistance of the cervix. In rheumatism of the womb, on the other hand, the uterine contraction begins to be painful from the start, and before the least power is exerted on the neck, so that the cause of the pain is not in the violent distension of the orifice, but in the contraction itself, in other morbid circumstances, and in other relations of the nerves and contractile fibres of the womb. 2d. In a natural labour the contractions commence at the fundus uteri, and are directed towards the lower segment. In rheumatism, instead of commencing at the fundus, they commence at the painful point, and run towards the neck in an irregular manner. Again, the pains exist before the contractions of the womb, and, under their influence, when they are established, acquire a high degree of intensity. Their violence sometimes arrests the contractions before they have run through their ordinary cycle. They are, in such a case, brisk, short, and grow less and less frequent. 3d. Towards the close of the labor, when the action of the womb requires to be sustained by the voluntary contraction of the abdominal muscles, the woman, for fear of increasing her sufferings, refrains from contracting her abdominal muscles, which causes the labor to be excessively slow. The patient is in a state of extreme anxiety; the frequent pulse, the hot skin, the thirst, the urinary tenesmus, are much augmented. When the sufferings are too much protracted, she at last falls into a collapse (which is often a fortunate event for her) during which the pain is suspended. Under these circumstances, a profuse sweat has been observed, which has had the happiest effect on the rest of the labor. But in other instances the womb grows more and more painful; it is rather in a state of permanent contraction or fibrillar vibration, than of real contraction; the pulse becomes accelerated, and now the woman is under the influence of a metritis, which renders the labor extremely painful.

"3d. *Influence of rheumatism of the womb on the puerperal functions.* One may conceive, *a priori*, that uterine rheumatism, by causing irregular or partial contractions of the organ, immediately subsequent to the birth of the child, might be the occasion of much difficulty in the delivery of the placenta; but this is not the place to discuss that point.

"In health, after the delivery, [the womb contracts, and thus prevents hemorrhage. But in rheumatism, this return of the organ is very incomplete; it remains above the pubis, and is large. The after-pains are now very painful, and continue for a long time. The uterine vessels are less compressed, whence may arise very copious floodings. On the other hand, the state of suffering in which the organ is placed diminishes the lochial discharge and the secretion of milk. The persistence of abdominal pain, added to the symptoms of a general re-action, might lead to the diagnosis of a peritoneal inflammation, though none such should really exist.

"*Prognosis.* Rheumatism of the womb is not a disease capable of causing the loss of the mother's life, but from the pain it occasions, and the mistakes to which it leads, it nevertheless merits all the attention of the physician. In pregnancy it may cause abortion, and though it does not generally exhibit itself until the sixth month, it is always unfortunate for the child to be born before full term. We have already remarked upon the unavou-

able effect produced by the disorder on the course and character of labor-pains. On many occasions it has led to the necessity of artificial delivery. It may likewise render the delivery of the after-birth difficult, and derange the course of the phenomena that ought naturally to follow after the birth of the child. At this period it is often confounded with phenomena that are purely inflammatory, and is then treated by measures that are hurtful rather than beneficial.

"The disorder is for the most part less favourable when attacking at an early than a late period of gestation, because it has a more unfavourable influence on the progress of the gestation, as yet incompletely established and settled, and also because it has a tendency to be reproduced again and again, before the completion of the term, and on account of its disposition to return during the labor, which it is apt to render laborious.

"*Treatment.* 1st. During pregnancy, bloodletting, intestinal revulsives (ipecac., castor oil) baths, opiated lotions for the abdomen, anodyne potions, sudorific drinks. Such are the measures which have been most constantly successful. In cases where the affection of the uterus had followed the sudden disappearance of a rheumatic pain of some other part, revulsives should be applied to the part first affected. 2d. During labor the same means are applicable; should they fail, and the os uteri, as to its dilatation, admit of it, let the delivery be effected by means of turning, or the forceps. 3d. After delivery, sudorific drinks, anointing the abdomen with opiated ointments, baths, leeches to the vulva, and when the lochial discharge has failed, ipecac. and opium combined."

## CHEMISTRY, MATERIA MEDICA, AND PHARMACY.

### RESEARCHES UPON THE PHENOMENA THAT ATTEND THE PROJECTION OF BODIES UPON HOT SURFACES.

By M. BOUTIGNY.

Notice would have been taken of these researches before, had it not been from a desire to present a review of all his memoirs at one and the same time; the third has not yet appeared, but the results already obtained are too interesting to remain longer unnoticed.

The peculiar phenomenon that a drop of water or other liquid presents when thrown upon a red hot surface, that is to say, of assuming a spheroidal form and evaporating but slowly, has been known for a very great length of time, but has never been critically studied. The author has endeavoured to determine.

1st. The ultimate limit of temperature, at which this phenomenon takes place.

2d. The law of the evaporation of water in its spheroidal condition.

3d. The temperature of the liquids in their spheroidal state, as well as that of their vapors.

4th. If the radiated caloric traverses the spheroids or is reflected.

5th. If all bodies can pass to the spheroidal condition.

6th. If there is contact between bodies in their spheroidal condition and the surfaces upon which they are formed.

7th. If this phenomenon plays any part in the explosions (*fulminantes*) of steam boilers.

The first, concerning the limit of temperature at which the liquids become spheroidal, was determined by the following experiments among others. A drop of water was thrown into a polished silver capsule heated to 392° Fahr., then carefully transferred to an oil bath heated to 302° Fahr., and the water was found to maintain its spheroidal condition until the temperature of the bath descended to 288° Fahr.; then it moistened the surface and evaporated rapidly. This then has been found to be the lowest temperature at which the water maintains the spheroidal state. If the quantity of water consisted of several drops, its sphericity was lost at 308°. It has been ascertained that the lowest point at which alcohol and ether retain the same form, bears the same proportion to their boiling point, as 308° does to the point of ebullition of water,—it being 272° for alcohol, and 142° Fahr. for ether. Anhydrous sulphurous acid does not follow this law, but it is not an easy substance to experiment with; it, however, assumes and retains the spheroidal condition much below the boiling point of water, which is ascertained by placing a capsule in boiling water and letting the acid fall into it; a large quantity

may thus be made to assume the spheroidal shape, but it soon becomes hydrated in absorbing and congealing the watery vapor; thus we have the singular phenomenon of the congelation of the vapor of water in boiling water.

These facts establish that the temperature necessary to cause a body to pass to the spherical state, is higher as its boiling point is greater.

The next series of experiments was to ascertain the law of the evaporation of the water while in its spheroidal condition. At 392° Fahr. a grain and a half of water took 3.30 minutes to evaporate; at 752°, the same quantity of water was evaporated in 1.31 minutes; at a dull red heat, in 1.13 minutes; and at a bright red, in 0.50 minutes,—the evaporation increasing with the temperature, which is contrary to the rule laid down by Klaproth on the subject; but the experiments of the latter were made in iron vessels, and the oxidation of the metal interfered with the accuracy of the results. As regards the temperature of the body while in the spheroidal condition, the author has established the following general rule: *bodies in their spherical condition remain constantly at a temperature lower than that of their ebullition, without regard to the temperature of the containing vessel.*—

That of Water being . . . . .	206° Fahr.
" Absolute alcohol, . . . . .	168° "
" Ether, . . . . .	109° "
" Chloric ether, . . . . .	51° "
" Sulphurous acid, . . . . .	13° "

M. Boutigny has been the first to experiment with sulphurous acid thrown on hot surfaces, and his results are exceedingly interesting. Heat to redness a platinum capsule, and pour into it several grammes of anhydrous sulphurous acid. On observing that part of the glass from which the sulphurous acid is let drop, and opposite to the hand, it is seen to boil rapidly, which ebullition ceases instantly as it falls into the red hot capsule, and its evaporation goes on with an incredible alowness and without any signs of ebullition. If the weather be damp, the acid becomes turbid, and finally loses its transparency, then solidifies, and upon examination the solid is found composed almost entirely of water. If the weather be dry, then no residue is left. The singular phenomenon, of boiling sulphurous acid becoming colder when thrown into a red hot capsule, is not peculiar to it, as boiling water will exhibit the same fact, falling from 212° to 206° Fahr.

If we throw distilled water drop by drop into sulphurous acid in the spheroidal condition, it becomes frozen, even if the capsule be white hot; or if we plunge for about a half a minute a small glass bulb containing about fifteen grains of water into sulphurous acid in the spheroidal condition,—withdraw it, and break it, and a small lump of ice will be found within. A still more striking way of making the experiment, is to place the capsule containing the sulphurous acid at the bottom of a muffle, in a furnace heated to whiteness, when if the weather be dry, the evaporation goes on slowly without any residue,—if the weather be moist, ice will remain behind. Again, if a brick be placed upon the plate of an air-pump, around it a layer of binoxide of lead to absorb the acid vapor, and upon that a piece of brick heated red hot, having a cavity that contains a small capsule, into which sulphurous acid is poured, and a vacuum be rapidly produced; the sulphurous acid which ought, so to speak, to explode, does not boil, but evaporates slowly, just as in a white hot capsule, or as at the bottom of the muffle of the furnace; and what is still more remarkable is, that on a damp day the little water that the air of the receiver contains, congeals in the spheroidal sulphurous acid: all other liquids behave in the same way in the vacuum.

The vapors arising from the spheroidal liquids have their temperature much elevated; and where water and an iron vessel is used, it is decomposed, furnishing hydrogen gas.

Does the heat traverse the liquids in their spherical condition without combining, or is it reflected? This is important to determine, for up to the time of M. Boutigny's experiments, it was pretty generally admitted that it did traverse them; but he has proved most clearly that the heat is reflected and not transmitted. A platinum capsule was made red hot, and by means of a support, a small glass bulb containing water was placed very near the bottom of the vessel; the radiated heat soon heated the vessel, and made the water boil; it was now withdrawn, and water poured in, when it immediately assumed the spheroidal condition, and into it was plunged the small bulb before alluded to; but no signs of ebullition manifested themselves, showing clearly that no caloric rays penetrated the spheroid of water. Nor is this result at all affected, if small particles of wood, sand, or iron be mixed with

the water and the iron, although so much heavier than the water, will not touch the capsule, but remains in the spheroid until its complete evaporation. If lampblack be mixed with the water, and into it the small bulb of water be plunged, no difference is seen from the former case.

Can all bodies pass to this spheroidal condition? From the author's experiments, he concludes that all bodies can pass to this state.

The experiment with iodine is brilliant, and can be easily repeated in a lecture room. Throw in about fifteen grains of iodine into a capsule (almost flat) heated to redness, when it at once assumes the spheroidal condition, and is surrounded with rare and transparent vapors of iodine; withdraw the source of heat, and in a moment after the iodine passes to its ordinary liquid state, moistens the capsule, boils with violence, and gives rise to an abundance of most beautiful vapors. This gives a good idea of the difference existing between the evaporation of a body in its spheroidal condition, and the evaporation of the same body by ebullition.

Experiments were made to ascertain whether the heated surface was touched or not. It is discovered that the surface is not touched by the bodies in the spheroidal condition. This was proved in various ways, among others, by placing a drop of water upon an almost flat capsule, (heated,) and on looking at a lighted candle placed at one side of the capsule, it can be seen perfectly without interruption between the capsule and spheroid.—*Ann. de Chim. et de Phys.*, vol. ix, p. 350, and vol. xi, p. 16.—*From American Journal of Science and Arts*, March No.

#### TABLE OF FRENCH MEASURES.

The following table of French measures is taken from Dr. Walshe's translation of Louis on "Phthisis."

The French line =  $\frac{1}{12}$  of the English inch.

Measures of length.	English Inches.
Meter . . . . .	39.370
Deciméter . . . . .	3.937
Centiméter . . . . .	0.393
Milliméter . . . . .	0.039
Measures of weight.	Grains Troy.
Gramme . . . . .	15.438
Decigramme . . . . .	1.543
Centigramme . . . . .	0.154
Measures of capacity.	English pints.
Litre . . . . .	1.760

—Ranking's Abstract.

## British American Journal.

MONTREAL, MARCH 15TH, 1846.

### THE MEDICAL BILL.

In the course of a few days the Provincial Legislature will meet in session, and we have good reason for believing that a Medical Bill will be introduced as a Government measure. The complete inadequacy of the Bill introduced at the last session to meet the wants of the Profession at large, whether in Canada East or West, has been fully exposed in previous numbers of this Journal. Of what nature the precise tenor of the new one may be, we are unaware, but unless modified in some shape or other in accordance with our suggestions, which we have endeavoured to predicate on the general good, it will prove itself a very unsatisfactory one. Of one thing our readers may keep themselves assured, that we will advise them of the advances made in the measure, which in its consequences affects the

general welfare of the profession. We publish below, an address extensively circulated for signature among the profession in Canada West, with what success we know not. Much as we regret that *any circumstances* should have arisen to induce our Western brethren to seek a Medical Bill of their own, we yet cannot see why their interests should be so diverse from ours in Eastern Canada as to render an event of that kind imperative.

### PETITION

*To the Honorable the Legislative Assembly of the Province of Canada, in Parliament Assembled:—*

The Petition of the undersigned Medical Practitioners of Canada West, humbly sheweth:—That it is highly desirable, that those persons who have the care of the health and lives of their fellow men, should, by their education, acquirements, and skill, be in every way worthy of so important a trust, that the majority of the public cannot reasonably be expected to justly estimate the qualifications of those who tender them their Medical services; consequently, most civilized nations have endeavored to establish such regulations as will secure to the afflicted, the services of educated men, worthy of confidence, and protect them from ignorant pretenders to Medical skill.

That your Petitioners have found, that the law now established with this view, has proved ineffectual for the object apparently designed; as empiricism flourishes to an extraordinary extent—to the discouragement of your petitioners, and the serious detriment and danger of the community. Men of skill and eminence are deterred from settling in the province; and several such now residing here, have been induced to relinquish their profession, to follow other vocations better calculated to ensure them a competence, and to advance the interests of their families; moreover, no sufficient inducement is held out to young men of talent, to adopt a profession, in which there is so slight a prospect of obtaining an adequate return for the necessary, laborious, and expensive study required.

Your Petitioners are of opinion, that the act regulating the practice of physic, surgery, and midwifery, (8th Geo. IV, c. iii.) is inoperative, from two causes—one of which is, that no prosecution can be commenced one year after the offence. Parties transgressing, can thus readily evade the penalties of the law, by refraining from claims for their illegal practice, until more than that period has elapsed. Another, and probably the principal reason of the inadequacy of the law, is, that although the whole community suffer from infractions of it, they have been in the habit of looking to the regularly qualified practitioners to enforce its enactments; and it will not seem surprising that but few have been found willing to endanger their own prospects, by incurring the odium attached to the capacity of an informer.

Your Petitioners, therefore, deeply impressed with the uncertainty of individual action in promoting the interests both of the public and of the medical profession, beseech your Honourable House to take into favorable consideration, some measure, to unite into one body, the whole of the medical practitioners in Canada West. And as a preliminary step to establish *Medical Societies* in each district—to which it shall be imperative on all medical practitioners to attach themselves in their respective districts.

Your Petitioners pray, that these District Medical Associations shall be authorized to make By-laws for the management of all local matters connected with the profession—such as their tariff of fees, the suppression of illicit practice, and other objects calculated to advance the combined interests of themselves and the public.

Your Petitioners further consider it desirable, that, for the examination of candidates, granting licenses, the expulsion or suspension of unworthy members, and other purposes, there should be established a *General Provincial Medical Board or Council*, possessing the confidence of their brethren in the profession. They, therefore, humbly pray that each District Society shall be authorized to nominate to that honorable office, two of its members, subject to the approval of the Governor General, and to be annually re-elected.

A *Provincial Medical Society, or Board*, so constituted, would unite in one common centre, the views and wishes of the whole profession; and it is earnestly hoped, that it would confer upon

the practitioners of medicine, the independence, respectability, and advantages, which the incorporation of the Law Society has obtained for its members, and thus ultimately raise the medical profession to that position in public regard to which it is, by its utility and importance, so justly entitled.

Your Petitioners are the more emboldened in thus beseeching the intervention of your Honorable House, that they feel that, in complying with their requests, you will not only cheer and encourage them in the performance of their benevolent and most laborious duties, but you will confer an immediate and permanent benefit on the country.

And your Petitioners will ever pray.

### CORRESPONDENCE.

*(To the Editors of the British American Journal of Medical Science.)*

GENTLEMEN.—I have read with much pleasure, the comments you offer, in the last number of your valuable Journal, on Professional Etiquette; and trust you will extend them in future numbers, as such editorial castigations maintain a wholesome discipline in the *corps Medical*, and serve as a guide and caution to what Percival in his medical Ethics terms, the "Professional busy-body."

I am led to make the above remarks from the uncourteous conduct I experienced from a medical man who was called to see a patient under my care, and who without the slightest allusion to the practitioner he was told was in attendance, suggested a change of treatment, thereby succeeding in what no doubt was his *only* object—getting the patient for himself.

Is not such conduct unbecoming the dignity of a member of a liberal profession? And can we not with propriety assume that the person alluded to, is another proof of the truth of the remark of Lord Bacon, that the man of science is always a man of humility, and respects the feelings and opinions of others—and we might add that where this humility does not exist, we find ignorance and presumption hand in hand.

The position of the person referred to is so high, that he was about the last man from whom such unprofessional conduct could have been expected—and as there are rumours of such things having before occurred in Montreal, it is time that a stop should be put to them, and should any such "busybody" cross my path again, I will most assuredly forward you his name to be placed No. 1, on your list of the "Proscribed."

Your obedient servant,

M. D.

Montreal, Feb. 28, 1846.

Our Correspondent has given us the name of the party alluded to in the above letter, and with him we cannot but express our surprise at his conduct in the case, the particulars of which he has detailed to us.—(Eds.)

### OBITUARY.

Died, of Phthisis Pulmonalis, on Saturday morning last, the 14th inst., William Macnider, M.D., at the early age of 31 years. In the year 1836, Dr. Macnider graduated at the University of Edinburgh, after having previously become a Licentiate of the Royal College of Surgeons of the same place. He returned shortly afterwards to this his native city, and entered upon his duties as a practitioner. His career was for several years, the same arduous and difficult one that attends the path of almost every young physician. Possessed of talents of high order, and steady perseverance, with

studious habits, these difficulties he had gradually surmounted, and was, at the period of his decease, in the enjoyment of an excellent practice. In 1842, assisted by some influential friends, he succeeded in establishing the Montreal Lying-in-Hospital, an institution the first of the kind founded in this Province, an honour to its founder, and which has effected much good. In the discharge of the duties which devolved upon him as its attending Physician he was unremitting. In 1843, he was elected a Member of the Medical Board of the Montreal General Hospital, and delivered a course of lectures on Midwifery, the same winter, in the "School of Medicine" of this city. His physical powers being inadequate to carry him through this additional labour, he was compelled to intermit it, that course having been his only one. In 1844, upon the retirement of the then Physician to the Ladies' Benevolent Institution of this city, Dr. Macnider was, at his special request, elected in his place, the duties of which he continued to discharge until his health becoming so much impaired from the inroads of his disease, that he was obliged to discontinue. His was a heart that warmly responded to the calls of the suffering poor, who have in him lost a friend that deeply sympathized with them. His benevolence was unbounded and active. As a friend, he was warm and sincere; as a Christian, humble and devout. His "latter end" was emphatically one of perfect "peace."

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR JANUARY AND FEBRUARY, 1846.

Dr. CRAWFORD, } Attending Medical Officers.  
Dr. SEWELL, }

##### DISEASES AND ACCIDENTS.

Abcessus, . . . . .	5	Morbus Coxarius, . . . . .	1
Ambustio, . . . . .	1	Necrosis, . . . . .	1
Anasarca, . . . . .	2	Ophthalmia, . . . . .	3
Bronchitis, . . . . .	15	Porrigio, . . . . .	1
Catarrhus Senilis, . . . . .	2	Paralysis, . . . . .	4
Contusio, . . . . .	7	Pleuritis, . . . . .	1
Cynanche, . . . . .	4	Pleurodynia, . . . . .	3
Delirium Tremens, . . . . .	1	— Pneumonia, . . . . .	1
Diarrhoea, . . . . .	1	Phthisis, . . . . .	1
Dialocatio, . . . . .	1	Phagadæna, . . . . .	1
Dyspepsia, . . . . .	3	Pneumonia, . . . . .	2
Dysentery, . . . . .	3	Psoriasis, . . . . .	1
Dysuria, . . . . .	1	Rheumatismus, . . . . .	8
Erysipelas, . . . . .	3	Rubeola, . . . . .	7
Febris Com. Con., . . . . .	28	Rupia, . . . . .	1
" Typhoides, . . . . .	4	Sarcocelo, . . . . .	1
" Intermittens, . . . . .	2	Scarlatina, . . . . .	1
Fractura, . . . . .	4	Sciatica, . . . . .	1
Gelatio, . . . . .	4	Scirrhus, . . . . .	1
Gonorrhœa, . . . . .	2	Scrofula, . . . . .	1
Hæmatemesis, . . . . .	1	Stomatitis, . . . . .	1
Hemiplegia, . . . . .	1	Stricture, . . . . .	1
Hemoptysis, . . . . .	1	Synovitis, . . . . .	1
Hysteria, . . . . .	2	Syphilis, . . . . .	8
Icterus, . . . . .	2	Ulcus, . . . . .	17
Iritis, . . . . .	1	Ulceration of Cartilagos, . . . . .	1
Mania, . . . . .	1	Variola, . . . . .	2
Morbus Cordis, . . . . .	2		

Total, 176

Remained, . . . . .	116	Discharged, . . . . .	186
Admitted, . . . . .	176	Died, . . . . .	2
		Remaining, . . . . .	104
Total treated, . . . . .	292	Total, . . . . .	292

IN-DOOR PATIENTS TREATED.		OUT-DOOR PATIENTS TREATED.	
Belonging to Montreal, . . . . .	158	Belonging to Montreal, . . . . .	424
Immigrants, . . . . .	17	Immigrants, . . . . .	19
Seamen, . . . . .	1	Seamen . . . . .	1
Total, . . . . .	176	Total, . . . . .	444
Males, . . . . .	97	Males, . . . . .	250
Females, . . . . .	79	Females, . . . . .	194
Total, . . . . .	176	Total, . . . . .	444

ALEXANDER LONG, M.D., House Surgeon.

#### NOTICE TO CORRESPONDENTS.

The paper on "Purpura," from Dr. Grasset, Toronto, and Dr. Reynolds' paper on "A case of Poisoning by Camphor," are still excluded from want of room.

We acknowledge the receipt from Dr. Clarke, Chateau Richer, of an Essay on "Le Charbon," read before the Quebec Medical Society, June 4, 1827; and from Dr. Craigie, Hamilton, a paper "On the mean results of Meteorological Observations at Ancaster, C. W., from January 1835, to January 1846." Judging from the abrupt termination of the M.S. sent, (ending in the middle of a sentence,) we conclude that the whole has not been forwarded: and request Dr. Craigie's attention to the circumstance, which appears to us to be an oversight.

We take this opportunity of correcting an unintentional error in our notice of the Brandford action for Slander, in the November number. The defendant's name should have been Dr. Peter Marter, instead of Dr. Peter Mercer.

The title page and index to the first volume of this Journal, which is now completed, will be forwarded to Subscribers with the ensuing or the May number.

#### BOOKS, &c. RECEIVED

The half yearly abstract of the Medical Sciences, edited by W. H. Ranking, M.D., Cantab. Part 2, Vol. 1. July to December 1845. American Edition. New York, 1846.  
Boston Medical and Surgical Journal, Nos. 3, 4, 5, 6.  
Medical News and Library, Philadelphia, Feb. and March No  
Missouri Medical and Surgical Journal, Vol. 1, Nos. 1 and 9.  
Provincial Medical and Surgical Journal, London, Vol. 3, Nos. 1 and 4.  
Dublin Medical Press, Dublin, Nos. 366, '67, '68, '69.  
Southern Medical and Surgical Journal, Feb. and March Nos.  
Lecture on Medical obedience, introductory to the course of Theory and Practice of Medicine, Pennsylvania College, Philadelphia, by W. Darrach, M.D., November 1845.  
St. Louis Medical and Surgical Journal, February.  
Report of the Pennsylvania Hospital for the Insane, for 1845.  
Valedictory Address, delivered before the Baltimore College of Dental Surgery, at its sixth annual commencement, by C. A., Harris, M.D., D.D.S. and P., Baltimore, 1846.  
American Journal of Science and Arts, March No.  
Buffalo Medical Journal, March.  
New York Journal of Medicine and the collateral Sciences March.  
New York Medical and Surgical Reporter, No. 11.

**BILL OF MORTALITY for the CITY of MONTREAL, for the month ending FEBRUARY 28, 1846.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Measles, .....	13	26	39	8	17	9	.	1	3	1				
	Scarlatina, .....	.	1	1	.	.	1								
	Hooping Cough,...	1	1	2	1	.	1								
	Fever, .....	29	23	52	13	18	8	5	.	2	3		2	.	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Water on the Brain	2	0	2	.	.	1	1							
	Dentition, .....	2	1	3	2	1									
	Paralysis .....	.	1	1	.	.			1						
	Convulsions, .....	1	0	1	1	.									
DISEASES OF THE RESPIRATORY ORGANS, .....	Consumption, .....	24	37	61	11	7	.	3	1	9	12	9	3	6	
	Croup, .....	6	3	9	6	2	1								
	Bronchitis, .....	1	1	2	2										
DISEASES OF ABDOMINAL VISCERA, AND CIRCULATING SYSTEM, .....	Dropsy, .....	1	1	2	.	.	.	.	1	.	.	.	.	1	
	Liver Complaint(?)	1	.	1	.	.	.	.	.	.	.	1	.		
	Cancer of Stomach	1	.	1	.	.	.	.	.	.	.	.	.		
	Age or Infirmary, .....	2	3	5	.	.	.	.	.	.	.	.	.	2	3
	Inflammation, .....	2	5	7	5	1	.	.	.	.	1	1	.		
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Child-birth, .....	.	1	1	.	.	.	.	.	.	1	1	.		
	Sudden & Accid'tal	3	.	3	1	.	.	.	.	1	1	.	.		
	Still-born, .....	4	3	7	7	.	.	.	.	1	1	.	.		
	Unknown, .....	1	2	3	1	.	.	.	.	1	1	.	.		
Total, .....		94	109	203	58	46	21	9	4	16	21	10	5	9	4

**MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR FEBRUARY, 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.	WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		7 A.M.	3 P.M.	10 P.M.
1,	-12	+ 6	- 2	- 3.	30.50	30.42	30.35	30.42		Fair	Fair	Fair
2,	+ 4	" 19	+ 21	+ 11.5	30.33	30.28	30.18	30.26		Cloudy	Fair	Fair
3,	" 22	" 31	" 34	" 26.5	30.00	29.96	29.85	29.94		Cloudy	Rain	Rain
4,	" 25	" 31	" 28	" 26.	29.97	29.91	29.78	29.89		Fair	Fair	Fair
5,	" 31	" 37	" 23	" 34.	29.59	29.76	30.02	29.79		Fair	Snow	Fair
6,	" 23	" 24	" 19	" 23.5	30.10	30.08	30.04	30.07		Fair	Fair	Fair
7,	" 16	" 32	" 34	" 24.	29.75	29.59	29.34	29.56	Omitted in consequence of the severe illness of the gentleman taking these observations.	Fair	Fair	Fair
8,	" 0	" 7	" 2	" 3.5	29.80	29.82	29.92	29.85		Fair	Fair	Fair
9,	- 4	" 10	- 3	" 3.	29.99	30.10	30.22	30.10		Fair	Fair	Fair
10,	- 10	" 5	+ 2	- 2.5	30.22	30.16	30.12	30.17		Fair	Fair	Fair
11,	- 11	" 8	" 2	- 1.5	30.09	30.06	30.00	30.05		Fair	Fair	Fair
12,	- 8	" 12	" 7	+ 2.	30.24	30.28	30.17	30.23		Fair	Fair	Fair
13,	+ 4	" 20	" 10	" 12.	30.12	30.12	30.16	30.13		Fair	Fair	Fair
14,	" 0	" 16	" 10	" 8.	30.24	30.18	30.07	30.16		Fair	Fair	Fair
15,	" 2	" 10	" 5	" 6.	29.83	29.79	29.92	29.83		Fair	Fair	Fair
16,	- 2	" 17	" 8	" 7.5	30.04	30.03	30.01	30.02		Fair	Fair	Fair
17,	+ 3	" 21	" 7	" 12.	30.10	30.14	30.22	30.15		Fair	Fair	Fair
18,	- 1	" 20	" 6	" 9.5	30.29	30.30	30.33	30.31		Fair	Fair	Fair
19,	- 8	" 19	" 8	" 5.	30.40	30.32	30.16	30.29		Fair	Fair	Fair
20,	+ 8	" 21	" 15	" 14.5	29.86	29.70	29.44	29.67		Fair	Fair	Fair
21,	" 17	" 30	" 26	" 23.5	29.40	29.47	29.56	29.47		Snow	Snow	Snow
22,	" 22	" 33	" 20	" 27.5	29.66	29.60	29.66	29.64		Fair	Fair	Fair
23,	" 14	" 23	" 18	" 18.	29.78	29.76	29.78	29.77		Fair	Fair	Fair
24,	" 16	" 28	" 14	" 22.	29.95	30.00	30.14	30.03		Fair	Fair	Fair
25,	" 8	" 11	" 7	" 9.5	30.23	30.19	30.21	30.21		Fair	Fair	Fair
26,	- 3	" 12	- 3	" 4.5	30.28	30.33	30.43	30.35		Fair	Fair	Fair
27,	- 8	" 10	+ 6	" 1.	30.48	30.43	30.33	30.41		Fair	Fair	Fair
28,	+ 5	" 18	" 2	" 11.5	30.23	30.29	30.26	30.26		Fair	Fair	Fair

THERM. } Max. Temp., +37° on the 5th.  
 } Min. " -12° " 1st.  
 Mean of the Month, +11° 32

BAROMETER, } Maximum, 30.50 Inches on the 1st.  
 } Minimum, 29.34 " " 7th.  
 Mean of Month, +39.038 Inches.

**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—FEBRUARY, 1846.**  
*Latitude 43°. 39' 4. N. Longitude 79°. 21' 5. W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.				Tension of Vapour.				Temperature of the Air.				Humidity of the Air.				Wind.				WEATHER.	
	7 A.M.		3 P.M.		10 P.M.		Mean.	7 A.M.		3 P.M.		10 P.M.		Mean.	7 A.M.		3 P.M.		10 P.M.			
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.		10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		7 A.M.	3 P.M.	10 P.M.					
1,	29.948	29.863	—	29.692	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	Clouded all day. Slight snow a.m.
2,	29.907	29.822	—	29.778	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Clouded all day. Slight snow a.m.
3,	29.578	29.560	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	29.627	—	Densely overcast.
4,	29.785	29.606	29.378	29.554	1.06	1.195	1.49	1.64	30.4	40.6	35.0	36.1	.98	.78	.81	Cal.	S.W.	S.W.	W.N.W.	—	Overcast. Halo round moon 7 p.m.	
5,	29.411	29.615	29.761	29.644	1.06	1.340	1.34	1.32	35.8	35.6	39.2	34.7	.66	.68	.56	Cal.	Cal.	Cal.	Cal.	—	Gently cloudy, halo round moon 7 p.m.	
6,	29.806	29.673	29.516	29.598	1.21	1.164	1.62	1.49	24.4	38.6	33.9	33.6	.67	.60	.76	N.W.	N.W.	N.W.	N.W.	—	Gently cloudy, wind fresh p.m.	
7,	29.251	29.031	29.254	29.243	1.35	1.176	.081	.139	24.6	37.3	20.1	29.1	.90	.70	.83	Cal.	S.	S.	Cal.	—	Generally cloudy, wind brisk p.m.	
8,	29.663	29.526	—	29.809	.050	.095	—	—	10.1	18.0	—	—	1.00	.80	.72	Cal.	N.W.	N.W.	N.W.	—	Clear a.m., wind high & squally fr. 9 p.m.	
9,	29.632	29.797	—	29.860	.064	.049	.062	.055	13.2	15.1	8.0	10.3	.68	.92	.75	N.W.	N.W.	N.W.	N.W.	—	Clear a.m., wind high & squally fr. 9 p.m.	
10,	29.835	29.621	29.514	29.620	.046	.101	.135	.104	4.4	24.2	25.8	20.1	.76	.54	.78	N.W.	N.W.	N.W.	N.W.	—	Detached clouds.	
11,	29.409	29.433	29.673	29.557	.121	.096	.078	.084	23.0	18.8	13.4	14.6	.83	.75	.96	N.	N.	N.	N.	—	Clouded a.m. Mostly clear p.m.	
12,	29.857	29.891	29.919	29.892	—	.101	.090	—	5.3	32.0	18.1	15.9	.95	.91	.91	E. by N.	N.E. by N.	N.E. by N.	N.E. by N.	—	Clear to 8 a.m., sun, 10 a.m. & 6 p.m. to 0.	
13,	29.865	29.795	29.813	29.818	.120	.148	.148	.127	24.7	35.0	29.6	26.8	.88	.73	.99	Cal.	W.S.W.	W.S.W.	W.S.W.	—	Growing constantly to 8 p.m.	
14,	29.729	29.592	29.376	29.562	.102	.160	.126	.130	18.6	33.5	29.6	26.5	.86	.73	.86	Cal.	W.S.W.	W.S.W.	W.S.W.	—	Generally cloudy.	
15,	29.250	29.369	—	29.539	.115	.121	—	—	20.6	28.3	—	—	.97	.84	.77	N. by E.	N.E.	N.E.	N.E.	—	Halo 6 a.m., clouded all day, snow 10 p.m.	
16,	29.560	29.468	—	29.551	.108	.130	.112	.115	21.2	25.6	21.4	22.5	.92	.95	.94	E.N.E.	N.E.	N.E.	N.E.	—	Snowing constantly to 4 p.m.	
17,	29.680	29.732	29.827	29.775	.101	.154	.115	.115	19.4	30.6	22.4	22.1	.92	.90	.92	Cal.	E.	E.	E.	—	Overcast all day, sun, fr. noon to 11 p.m.	
18,	29.923	29.965	29.964	29.952	.067	.111	.074	.083	11.6	27.2	10.6	15.5	.83	.75	.98	Cal.	Cal.	Cal.	Cal.	—	Ditto, snowing slightly from 3 to 9 p.m.	
19,	29.890	29.682	29.446	29.583	.067	.110	.140	.116	11.8	26.8	25.6	24.0	.87	.74	.98	Cal.	N.	N.	N.	—	Light clouds a.m., clear and fine p.m.	
20,	29.086	28.929	28.934	28.964	.131	.161	.138	.137	24.6	30.1	26.2	26.3	.97	.96	.96	E. fresh.	E.N.E. fr.	E.N.E. fr.	E. fr. & sq.	—	Clear to 6 a.m., day cloudy, sun, fr. 8 p.m.	
21,	28.983	22.066	29.210	29.180	.128	.139	.092	.115	26.0	29.4	21.0	23.9	.88	.85	.79	S.W.	S.W.	S.W.	S.W.	—	Snow drift to 11 a.m., slight sun, remainder	
22,	29.299	29.324	—	29.459	.110	.127	—	—	21.1	24.7	—	—	.86	.83	.85	S.W.	S.W.	S.W.	S.W.	—	Mostly cloudy, slight sun, clear fr. 7 p.m.	
23,	29.443	29.405	—	29.631	.082	.110	.080	.088	15.6	24.9	17.4	18.4	.94	.80	.82	Cal.	S.W.	S.W.	S.W.	—	Overcast.	
24,	29.637	29.722	29.891	29.783	.060	.089	.057	.070	12.0	30.0	5.0	11.6	.87	.80	.95	Cal.	S.W.	S.W.	S.W.	—	Clouded to 4 p.m., clear from 7 p.m.	
25,	29.900	29.876	29.981	29.951	.045	.086	.049	—	1.8	16.6	6.2	7.0	.87	.89	.78	Cal.	W. by N.	W. by N.	W. by N.	—	Gently clear, slight snow occasionally.	
26,	30.143	30.198	30.255	30.216	—	.054	—	—	10.8	7.2	10.0	3.1	.83	.89	.78	Cal.	N.	N.	N.	—	Mostly clear. Slight snow p.m.	
27,	30.218	30.046	29.883	29.992	—	.077	.068	—	12.4	15.0	10.8	8.7	.91	.85	.91	Cal.	N.W.	N.W.	N.W.	—	Clear to 6 p.m., day overcast, slight sun, p.m.	
28,	29.727	29.694	29.796	29.781	.068	.084	.074	.078	11.6	19.2	15.9	16.0	.86	.78	.79	Cal.	N.W.	N.W.	N.W.	—	Densely overcast. Occasionally slight snow.	
Mean	29.678	29.634	29.652	29.662	—	—	—	—	15.7	26.7	20.3	20.8	—	—	—	—	—	—	—	—	—	Inches 46.1

Highest Barometer, .. .. . 30.265 at 10 p.m. of 28th.  
 Lowest do. .. .. . 28.980 at 6 p.m. of 20th.  
 Highest Temperature, .. .. . 58.9 on 3rd, p.m.  
 Lowest do. .. .. . 16.0 on 27th, a.m.  
 Mean Daily Range, .. .. . 18.0  
 Extreme Daily Range, .. .. . 34.0, 6 on 27th, a.m. to 10 p.m.

Proportion of Wind from each Quarter—  
 N.W. .. .. . 110  
 S.W. .. .. . 106  
 S.E. .. .. . 47  
 N.E. .. .. . 99  
 Calm .. .. . 223

Proportion of Calm, .. .. . 223

Mean Temp. for Feb.  
 59.0  
 57.3  
 57.9  
 57.7  
 57.4  
 57.6  
 57.8

Under the head of Tension of Vapour, is given the elastic force of the aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to the presence of the instrument is standard instrument. The Rain Gauge is placed above the soil. The Mean entered are the Means by 24 hourly Observations, from 6 a.m. to 6 p.m.  
 The quantity of Rain or Snow received each 24 hours, is noted at 9 a.m., and is marked in inches.  
 The Observation entered in the column for 7 a.m., or Sunday, is actually taken at 9 a.m. The two Observations taken on Sunday are not included in any of the means.

**THE**  
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# MEDICAL AND PHYSICAL SCIENCE.

**EDITED BY**

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# MEDICAL & PHYSICAL SCIENCE.

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**MAY, 1846.**

[No. 1.]

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MONTREAL, MAY, 1846.

[No. 1

ON PURPURA HÆMORRHAGICA.

By E. M. HODDER, Esq., M. D., Toronto.

*Proceedings of the Toronto Medico-Chirurgical Society.*

Mary Osborne, æt. nearly four years, of light complexion, and delicate constitution, complained of being unwell on the 27th March, and in the evening became somewhat feverish.

Her friends, supposing that it would shortly pass off, gave her only a little castor oil.

On finding that the fever still continued, and was on the increase, I was sent for on the 30th March, when I found her labouring under symptoms of derangement of the mucous membrane of the stomach and bowels.

Her tongue was loaded with a whitish fur, she had no appetite, great thirst, bowels rather confined, motions slimy, offensive, and of a light colour, skin generally hot, particularly over the abdomen, a quick pulse, and constant irritation and picking of the nose.

Ordered—A mild aperient immediately; warm bath, and some powders, composed of hydr. c. creta, rhu. et ipecac.

In a day or two the tongue began to clean, and the appetite returned; and all the other symptoms were either gone or much relieved; the same plan of treatment was continued until 5th April, when the child only appeared to want strength to restore her to her usual health.

She continued well until the 18th, when she again complained, and on the 20th I was called in, when I found her labouring under well marked symptoms of Purpura Hæmorrhagica.

The whole surface of the body and the extremities were more or less covered by small petechiæ of a bright red colour, interspersed with some of a larger size and livid hue; the mucous membrane lining the mouth and air passages was also studded with them, two or three of which were of a large size, and appeared as if filled with black fluid blood, some having burst, giving rise to hæmorrhage from the mouth and nose.

The conjunctiva was also spotted. Besides the petechiæ on the body and extremities, there were several stripes and patches or ecchymoses, as if produced by bruises and the cuts of a whip.

The cuticle over these patches and the smaller pete-

chiæ was not elevated, but those which appeared to contain blood, were as large and as much raised as the half of a small pea, some of which having burst, had stained the linen with the blood they contained.

The constitution at this time did not appear to suffer much; there was no fever, no thirst, the pulse was 100 and soft (weak, if anything). She had no pain in any part of the body, appetite bad, tongue moist with a slightly brown fur upon it, and, with the exception of her temper which was irritable, the child was playing about, and appeared nearly well.

Ordered—Hydr. submur. pulv. jalap, comp. et rhu. immediately, and repeated to-morrow morning. The surface of the body to be sponged with vinegar and water night and morning.

April 21st. Much the same as yesterday, except that the tongue is somewhat cleaner and moist. Bowels have been acted upon two or three times; motions light in colour.

Ordered—Aperient powders to be continued occasionally; potass. chlorat. and hydrochloric acid mixture every four hours.

April 22d. The child appears listless, the tongue rather more brown, no fever, pulse 106, soft. Aperient powder immediately, beef tea, and continue the mixture.

April 24th. The child is worse to-day in every respect. The surface of the body is pallid; the petechiæ are larger and more numerous; blood has been voided by stool. Yesterday evening she complained of soreness of the throat, and, upon examining it this morning, I found the back part of the fauces much swollen, dark, livid, and almost gangrenous in appearance; a large sloughing ulcer occupied the right tonsil and the root of the uvula; the tongue was black, but moist; and the breath extremely fetid. Pulse 130, small and weak; countenance sunken; a slight cough. No pain in any part of the body except the throat. She was ordered wine every hour until seen in the evening, the hydrochloric acid gargle, and sulph. quinine with excess of sulph. acid every four hours.

6 P. M. Continues much the same, with the exception of vomiting, which came on at 5 P. M. Matter vomited like dark coffee grounds, mixed with thick mucus. In

the act of vomiting the uvula came away, throat gangrenous, breath intolerably fætid. She could not use the acid gargle. Ordered—Wine to be continued in larger quantities; continue the mixture; alum gargle for the throat.

25th. Passed a restless night; all the symptoms much as yesterday; pulse 140, very feeble. By some accident the wine was not given to her throughout the night. Vomiting returned occasionally, same sort of matter; evacuations dark, tarlike, and semifluid. Continue as before.

26th. Continues the same in every respect.

27th. Aggravation of all the symptoms; extreme pallor of the surface of the body; evacuations copious and of the same appearance as before; pulse 160, small, weak, and indistinct; tongue quite black; stomach rejects every thing taken into it; breathing thick and heavy, almost amounting to stertor; approaching coma.

Dr. O'Brien kindly visited her this evening, and suggested the use of the hydrochloric acid gargle again; the mixture to be continued, with the addition of a few drops of *Tr. opii*.

She continued to linger until about 4 A.M., of the 28th, when she died completely comatose.

#### *Secio Cadaveris, 26 hours after Death.*

The body externally was every where dotted with dark and circumscribed livid spots, varying in size from a millet seed to a silver threepenny piece. There were also several stripes of a bluish colour, and the appearance of numerous bruises as above described. The livid colour was deeper at the centres of the large spots, becoming of a more dusky red hue towards the circumference.

On making the usual incision from the sternum to the pubis, the same purpurous spots were discovered on the pectoral and abdominal muscles, as well as on the fascia covering them.

Almost every organ in the cavities of the thorax, abdomen, and pelvis, presented a similar appearance, the lungs, heart, pleura costalis, and thymus gland (which was of very large size), being all covered with the same ecchymosed patches. Nor were they confined to the surface, for on cutting into their substance they were found equally numerous, and of precisely the same character. The lining membrane of the trachea and bronchi were, however, quite free from them. The heart contained no blood whatever; the walls of the ventricles participated in the appearance observed in the other viscera. In the upper part of the septum common to the two auricles, and above the fossa ovalis, there was an interstitial deposit or extravasation of blood, extending throughout its whole extent.

The foramen ovale was not completely closed, several circular openings still existing.

In the stomach there was some ropy mucus, with a small quantity of dark-coloured fluid, and its villous surface presented innumerable small bloody points.

Externally the intestines generally exhibited a deep purple surface, particularly the ilium, cæcum, and part of the colon; and on slitting them open they were found completely filled with blood of a tarlike colour and consistence. Their mucous surface appeared gorged with blood, which could not be removed or lessened by repeated washings, and being wiped with a sponge.

The urine was very turbid, but did not contain any blood.

The examination was here brought to a close, in consequence of the friends objecting to the head being opened.

June 2, 1845.

In drawing the attention of this Society to *Purpura Hæmorrhagica*, (which in its most severe form is undoubtedly a rare disease), I am induced to do so from the great danger which attends it, the obscurity in which it is veiled as to its causes and means of cure, and because, to the pathologist it offers a wide and interesting field for experiment, which it is the duty of every Practitioner to avail himself of, so far as his time and opportunities will allow.

It appears to be the opinion of most modern pathologists, that this disease is occasioned by a depraved or attenuated state of the blood, exhibiting diminished vitality, and an alteration in its composition and vital properties.

I regret that I have not been able to meet with any account of the chemical analysis of the blood in *Purpura Hæmorrhagica*—its sensible qualities, however, and mode of coagulation have been carefully noted in several cases—Dr. Watson (*Lumleian Lecture, Med. Gaz. vol. x*) asserts that, "in many, perhaps in all instances of the disease, in which it can be examined, the blood is found actually to have undergone a change, not merely a change which may be ascertained by nice or elaborate chemical research, but such an alteration of its sensible qualities as is evident to the eye, and forces itself upon our notice."

The following are some of the most remarkable results of the examination of the blood in this disease:—1st, case of Dr. Jeffreys'—blood taken from a plethoric subject with a full pulse—2d. bleeding, after purgatives, and a previous loss of two pounds of blood by epistaxis. "The blood drawn yesterday shows an inflammatory buff on its surface, at least an inch and a half in thickness, firm and yellow, far exceeding any thing I ever saw in Rheumatism or pneumonia, but not at all cupped, in fact the

whole serum looks like a corrupted coat of coagulated lymph. The crassamentum appears in a very dissolved state, of nearly a black color, and much less in quantity than usual." This patient was again twice bled, the blood presenting the same appearances; he ultimately recovered—2d. Dr. Johnston relates a case of decidedly febrile character, and which rapidly proved fatal, the blood did not separate into serum and crassamentum; it had little consistence or tenacity, but traces of coagulable lymph were diffused through it:—3d. In Dr. Duncan's case, the blood, while flowing slowly from the vein, was observed to be florid and semitransparent, resembling diluted arterial blood. It slowly formed a loose coagulum, from which no serum was separated; the coagulum was like jelly, tremulous, transparent and colourless, the few red globules having subsided to the bottom. In this case much blood had previously been lost by hemorrhage. In Dr. Combe's case the blood was pale, coagulated slowly, separated no serum, and was not buffed. In Dr. Gardner's case the blood first drawn by the lancet seemed, four hours after, to coagulate very imperfectly into a homogeneous mass. On the following day it resembled a tremulous jelly, the top of which was of a greenish buff colour with brownish spots like tadpoles. What afterwards oozed from the puncture resembled turbid lymph. (See *Cyclopædia Pract. Medicine*, Article *Purpura*.) In two cases which I saw some years since, the blood of the first, a delicate child about eight years of age, did not separate into serum and crassamentum, but the whole mass was soft, not retaining its shape when turned out of the cup, the upper surface flat, and pale in colour, the under, dark and of the consistence of tar. The second, a woman of about fifty years, the blood separated as usual, but the crassamentum was semifluid, dark and not buffed, the serum was of a dirty green colour, and in a very large proportion to the clot. It is very evident from the foregoing cases that the blood in purpura differs much from its natural condition: we find that the serum generally bears a much larger proportion to the crassamentum than in the healthy state, that the red globules (to which the blood owes its power of arousing and keeping up vital motion in the animal economy) are deficient, and perhaps altered in composition, and I have no doubt that a future analysis will show, that, from the dark colour of the blood in all the cases, the saline matters which exist in the natural and healthy serum, will be found greatly diminished, or in some cases altogether wanting in purpurous blood.

When the specific weight is increased, it is generally owing to a deficiency in the proportion of water, as in the blood of Cholera and Diabetes, sometimes to increase of fibrine, and red particles, as in Plethora, Gout, and Rheumatism; we may naturally infer then, that, when the red

globules and fibrine are deficient, and when the serum is in larger proportion than natural, with a diminution of the quantity of the salts held in solution, that the specific weight will be less than natural, as is seen in chlorosis, typhus and yellow fever, and in all probability in Purpura.

Should the above theory hereafter prove correct, or even to approach the truth; it will be one essential step gained towards the true pathology of this obscure disease; and we may hope that in due time we may discover a more successful mode of treatment than has been hitherto adopted.

In the treatment of this disease in its severe form, venesection must be looked upon as a hazardous remedy, requiring great discrimination as to the causes and period of the disease in which it may be employed with safety. We know that by repeated bleedings or hemorrhages the mass of circulating fluid is diminished and rendered poorer by being deprived of its red globules, and the salts held in solution; we also know that these are reproduced more slowly than the other constituents, and that after repeated bleedings the blood may become so impoverished and deprived of its globules as to be unable to arouse and keep up the vital action in the animal economy. Under these circumstances then, bleeding should only be thought of when the disease has been of short duration, the patient plethoric, with a sharp hard pulse, fixed pain, or symptoms denoting local congestion. Dr. Macintosh informs us that he lost a patient some hours after she was bled.

Dr. Fairburn's case, though a strong man in the prime of life, never rallied after the third bleeding. In the case of the child above alluded to, death followed a moderate bleeding in less than 24 hours, although the symptoms were never extreme—and in the aged woman, who was bled in consequence of severe headache, never rallied, but died in about three days afterwards.

To whatever conclusion the pathologist may arrive, it cannot be denied that purpura is sometimes connected with a state of the system generally, or of some particular organ or organs, which requires blood letting for its cure; but, I think it equally certain, that in the more severe forms of Purpura Hæmorrhagica, when there is prostration of the vital powers, a pale cachectic complexion, with a small, weak, and quick pulse, a diminution of heat on the surface of the body or extremities, and hæmorrhage taking place from several of the mucous surfaces, it would be as unphilosophical to bleed, as it would be in the latter stages of any malignant or typhoid fever.

The neutral saline medicines have been strongly recommended by Dr. Stevens, not with a view to purge, but to correct the deteriorated state of the blood.

Dr. Belcombe has also employed them with success in three cases, one of which appears to have been of a severe form. Dr. B. like, myself, used the Chlorate of

**Potassa.** I should not again feel disposed to use saline medicines in the most severe forms of the disease, in consequence of the lowering effects of these remedies on the system.

Mr. Geo. Gulliver, F. R. S., (Surgeon to the Royal Horse Guards) in a paper "on the formation of the buffy coat of the blood" read before the Royal Medical and Chirurgical Society of London, in February last, asks, "whether the well known utility of saline medicines in inflammation may not be explained by their effects in preventing or destroying the aggregation of the red corpuscles, and in preventing or lessening the buffy or inflammatory condition of the blood. Purgatives sufficiently active to unload the bowels, and frequently repeated, have been strongly recommended, and from the benefit which temporarily followed their exhibition in the case above related, their can be no doubt of their great utility. They should consist principally of the warm aromatic or resinous drugs. Various tonics, the vegetable and mineral acids, and astringent, have all their supporters, but are only applicable in the latter stages of the disease, after the use of purgatives.

An interesting case is related by Dr. Sutherland, in the *Montreal Medical Gazette* for May 1844, of a lad aged 15, who was treated successfully by large doses of acetate of lead (15 grains every 2 or 4 hours) frequently repeated. Quinine and some of the preparations of iron will probably be found amongst the most useful of the tonic remedies.

The diet should consist principally of light and easily digested animal food in the solid form, with perhaps a little wine occasionally. Those articles should be selected which will yield to the debilitated system the largest amount of red globules and fibrine.

There is one remedial agent which has been often resorted to in hæmorrhages arising after child birth, serious wounds, or compound fractures, in cholera, &c. &c., but which I am not aware has ever been proposed or adopted in *Purpura Hæmorrhagica*—I mean Transfusion. In suggesting the propriety of performing this operation in an extreme case of *Purpura*, I would do so, not with any very sanguine hope of success, (nor should I attempt it until all other remedies had failed, and that death was inevitable without some speedy change taking place) but with a view to support the sinking powers of life, to stimulate the various organs, to arouse healthy action, and if possible gain a little time.

If we are correct in supposing this formidable disease to arise from an attenuated or depraved state of the blood in which the red globules are deficient, and perhaps altered in composition, surely there is nothing irrational in proposing to infuse into the system that principal of vitality without which the heart and brain would soon

cease to perform their destined functions. To do this the blood must be supplied with what it has lost, and I can see no more speedy manner of restoring that deficiency than by injecting the healthy blood of a stout and plethoric individual into the veins of the sinking patient.

Whatever our present theories may be, "much yet remains to be done ere the pathology of *Purpura* or its treatment can be considered as satisfactorily fixed on scientific principles."

Toronto, July 1845.

*Ergot of Wheat.*—In a private letter from Dr. Reynolds of Brockville, the writer observes:—

Brockville, January 21, 1846.

I send you a small specimen of *Ergot of Wheat*, and regret that I could not procure a quantity of it. One of our farmers, two years ago, imported some *Spanish Wheat*, to try whether it would be sufficiently forward to escape the fly, but found last year that it was attacked with a disease similar to that so common in the Rye, producing the *Ergot*, and rendering the flour a dangerous article of food, should the grain before grinding, be not carefully freed from this variety of smut. I tried the effect of this *Ergot* in an obstetric case—where the os uteri was well dilated; the woman had been for several hours without pains, notwithstanding a recourse to the usual treatment to induce them, &c.

I gave about  $\frac{1}{2}$  drachm in the form of infusion, and in course of fifteen minutes strong pains came on, and the patient was delivered of a fine boy, making the usual noisy entrance into life; so that in medicinal properties it would seem to have similar effects with the *Ergot of Rye*.

Very truly yours,

THOS. REYNOLDS, M.D.

#### AMMONIACAL OINTMENT A SUBSTITUTE FOR BLISTERING PLASTER.

The ammoniacal ointment, when properly prepared, causes vesication in about ten minutes. This rapidity of action renders it preferable to the other preparations used for producing vesication, which seldom act until after the lapse of several hours. Care should be taken that the ointment is properly prepared, or its operation will be slow and imperfect. The formula for its preparation recommended by M. Gondret, the inventor, is as follows:—Hogs lard, 32 parts; oil of sweet almonds, 2 parts; melt at a very gentle heat, and pour the compound into a bottle with a wide mouth: then add strong solution of ammonia (at 25 per cent.?) 17 parts. Keep the contents of the bottle well mixed by shaking them until cold. The common cause of the ointment failing, is that the mixture of lard and oil is over heated.\* If the lard is too liquid or too warm when the ammonia is added, a portion of this is rapidly lost by evaporation; and the strength of the compound is impaired. When well prepared and kept in a cool place, in a well closed bottle, the ointment will preserve its vesicating properties for more than a month.—*Journal de Pharmacie*, Janvier, 1846.

\* It would be better to melt the lard with the oil, by immersing the vessel containing them in water, the temperature of which is gradually raised.

MEAN RESULTS for each month of eleven years, (1835 to 1845 inclusive,) of a Register of the Thermometer and Barometer, kept at ANCASTER, C. W. Also, the Monthly Range of the Thermometer and Barometer, with the Mean Temperature, and fair and rainy days, of each year. By WM. CRAIGIE, Surgeon.

1835.	THERMOMETER.					BAROMETER.			Rainy Days.	Days slight showers.	Fair Days.
	Mean. 9 A. M.	Mean. 9 P. M.	Mean of both.	Highest	L. west	Mean Height.	Highest.	Lowest.			
January, - -	26.45°	29.42°	29.25°	47	-6	29.18			3	8	20
February, -	19.14	19.96	20.125	49	-1	29.235			3	7	18
March, - -	31.63	34.3	33.2	61	0	29.2			3	4	24
April, - -	42.57	41.88	42.86	74	22	29.08			7	6	17
May, - -	55.06	55.	55.	80	34	29.16			4	2	25
June, - -	62.37	61.4	62.3	84	39	29.165			5	8	17
July, - -	67.2	66.36	67.26	84	45	29.189			3	3	25
August, - -	64.8	63.6	64.14	85	45	29.207			4	7	20
September, -	55.	53.8	54.5	83	35	29.22			4	3	28
October, - -	50.5	50.0	50.75	76	30	29.23			4	6	21
November, -	39.17	37.7	38.99	66	10	29.007			5	5	20
December, -	26.	26.13	25.95	47	-7	29.06			6	8	17
Means for year,	- - -	- - -	43.318	- -	- -	29.16	- - -	- - -	51	67	247
1836.											
January, - -	25.55	26.61	26.08	39	0	29.047			7	6	18
February, -	16.83	20.86	19.14	50	-9	29.117			9	5	15
March, - -	25.74	28.26	27.21	53	0	29.1			5	8	18
April, - -	43.80	40.77	42.434	76	23	29.165			4	5	21
May, - -	57.00	54.96	55.9	81	36	29.106			7	7	17
June, - -	60.66	58.64	59.635	83	43	29.096			8	9	13
July, - -	68.80	65.9	67.24	85	52	29.061			3	4	24
August, - -	62.226	60.42	61.274	82	44	29.13			2	5	24
September, -	57.37	56.3	57.2	82	30	29.13			6	6	18
October, - -	41.07	41.13	41.185	59	25	29.056			4	10	17
November, -	35.53	35.8	35.8	54	14	29.022			6	3	21
December, -	26.40	28.6	27.76	47	2	29.062			6	8	17
Means for year,	- - -	- - -	43.405	- -	- -	29.097	- - -	- - -	67	76	223
1837.											
January, -	21.8	24.6	22.95	43	-2	28.98			7	4	20
February, -	24.32	26.07	24.846	44	-4	29.007			4	7	17
March, - -	28.84	29.74	29.629	47	0	29.108			3	6	22
April, - -	40.033	40.1	39.766	72	18	28.977			4	3	23
May, - -	50.	50.6	50.7	73	27	29.024			7	4	20
June, - -	61.73	59.37	61.105	83	45	28.94			7	6	17
July, - -	64.645	65.226	64.963	82	48	28.997			4	2	25
August, - -	62.93	62.55	63.44	80	44	29.04			4	10	17
September, -	56.66	56.86	57.32	77	39	29.183			5	4	21
October, - -	44.87	45.45	45.89	73	26	29.182			6	4	21
November, -	39.66	41.266	45.89	61	14	29.034			8	6	16
December, -	29.1	30.48	40.533	55	11	29.02			7	7	17
Means for year,	- - -	- - -	44.237	- -	- -	29.033	- - -	- - -	66	63	236
1838.											
January, -	29.58	30.1	30.08	62	8	29.05	29.40	28.57	6	6	19
February, -	15.71	17.96	16.93	36	1	29.02	29.42	28.67	3	4	21
March, - -	27.96	28.82	28.106	65	15	29.106	29.45	28.70	4	3	24
April, - -	37.63	38.33	37.96	63	19	29.006	29.64	28.42	6	7	17
May, - -	49.226	57.29	50.435	79	32	28.930	29.30	28.54	9	4	18
June, - -	65.7	66.07	67.2	85	45	28.998	29.17	28.74	2	6	22
July, - -	71.936	71.26	72.348	91	54	29.055	29.32	28.85	4	7	20
August, - -	68.1	67.516	68.05	86	50	29.135	29.36	28.82	2	7	22
September, -	60.766	59.466	60.493	82	39	29.188	29.41	28.80	0	2	28
October, - -	46.	45.7	45.477	75	24	28.998	29.53	28.52	5	6	20
November, -	31.8	33.133	32.143	53	7	29.083	29.65	28.60	6	4	20
December, -	23.226	23.84	23.217	41	5	28.936	29.72	28.50	5	10	16
Means for year,	- - -	- - -	45.205	- -	- -	29.042	- - -	- - -	52	66	247



**MEAN RESULTS of a Register of Thermometer and Barometer, kept at Ancaster, C.W.—(Continued.)**

1839.	THERMOMETER.					BAROMETER.			Rainy Days.	Days slight showers.	Fair Days.	Rain in Inches.
	Mean. 9 A. M.	Mean. 9 P. M.	Mean of both.	High'st	L'west	Mean Height.	Highest.	Lowest.				
January, -	26.13°	29.1°	27.62°	52	-7	29.076	29.72	28.48	3	5	23	
February, -	28.464	30.43	29.447	49	2	29.095	29.48	28.42	4	5	29	
March, -	33.8	33.	33.4	62	5	29.06	29.55	28.58	6	5	20	
April, -	51.37	49.47	40.42	78	32	29.091	29.31	28.72	3	5	22	
May, -	54.68	53.48	54.08	82	30	28.964	29.30	28.50	7	4	20	
June, -	60.7	59.8	60.25	83	42	28.945	29.20	28.70	7	5	18	
July, -	70.55	69.68	70.115	86	53	28.99	29.22	28.67	9	2	20	
August, -	65.9	65.8	65.85	83	44	29.109	29.41	28.71	3	4	24	
September, -	57.266	56.833	57.05	76	30	29.015	29.40	28.68	6	4	20	
October, -	53.55	54.16	53.85	76	29	29.195	29.60	28.87	3	4	24	
November, -	37.07	37.7	37.38	52	7	29.073	29.72	28.52	3	4	23	
December, -	31.65	32.26	31.95	49	4	28.953	29.27	28.40	5	10	16	
Mns for yr.	- - -	- - -	47.618	- -	- -	29.047	- - -	- - -	59	57	249	
<b>1840.</b>												
January, -	20.8	23.32	22.06	44	-5	29.035	29.60	28.24	7	4	20	
February, -	31.7	33.563	32.63	60	6	29.11	29.43	28.50	4	7	18	
March, -	38.7	36.97	37.83	60	15	28.93	29.40	28.47	4	2	25	
April, -	47.5	47.76	47.63	82	29	29.11	29.46	28.56	7	4	19	
May, -	59.8	57.84	58.82	87	37	29.055	29.38	28.33	4	4	23	
June, -	65.56	63.	64.28	84	47	29.06	29.41	28.68	4	8	18	
July, -	70.61	68.1	69.36	89	48	29.043	29.33	28.78	5	2	24	
August, -	68.45	66.35	67.4	85	48	29.115	29.37	28.73	4	9	18	
September, -	57.23	57.13	57.18	76	34	29.065	29.36	28.55	4	5	21	
October, -	47.84	48.68	48.26	73	27	29.093	29.35	28.73	7	5	19	
November, -	39.6	40.53	40.06	63	18	28.988	29.37	28.58	5	5	20	
December, -	27.55	28.8	28.175	43	10	29.021	29.50	28.38	6	9	16	
Means for the year, -	- - -	- - -	47.807	- -	- -	29.052	- - -	- - -	61	54	241	
<b>1841.</b>												
January, -	27.12	29.26	28.19	46	-4	28.96	29.52	28.42	5	9	17	
February, -	24.5	28.5	26.5	47	-2	28.855	29.27	28.27	1	5	22	
March, -	32.4	33.8	33.1	62	6	29.064	29.56	28.46	5	5	21	
April, -	43.566	42.033	42.8	71	26	29.041	29.50	28.40	5	3	22	
May, -	56.42	54.032	55.226	88	29	29.029	29.30	28.60	3	5	23	
June, -	70.33	68.43	69.38	90	49	29.088	29.20	28.87	2	3	25	
July, -	69.8	68.	68.9	91	50	29.107	29.38	28.90	3	3	25	
August, -	68.45	66.2	67.325	87	50	29.118	29.38	28.85	2	6	23	
September, -	64.366	62.733	63.55	80	37	29.006	29.33	28.55	2	8	20	
October, -	45.68	45.29	45.47	69	25	29.01	29.32	28.52	3	3	25	
November, -	37.323	36.98	37.15	60	22	28.94	29.32	28.40	4	5	21	
December, -	31.97	33.41	32.69	49	13	28.99	29.60	28.18	6	9	16	
Means for year, -	- - -	- - -	47.423	- -	- -	29.016	- - -	- - -	41	64	260	
<b>1842.</b>												
January, -	30.45	32.10	31.275	53	12	28.922	29.46	28.50	3	7	21	2.45
February, -	30.82	32.	31.41	56	8	28.947	29.37	28.40	4	3	21	2.2
March, -	39.39	40.87	40.13	70	15	29.062	29.45	28.55	4	7	20	2.48
April, -	46.20	47.80	47.	87	33	29.0325	29.39	28.55	6	3	21	3.5
May, -	53.42	53.50	53.46	76	32	29.049	29.43	28.70	1	5	25	0.9
June, -	60.9	58.8	59.85	81	32	29.038	29.36	28.74	6	8	16	3.6
July, -	67.84	66.67	67.26	89	50	29.135	29.40	28.83	3	4	24	4.8
August, -	66.22	66.6	66.41	84	50	29.173	29.40	28.88	3	7	21	2.7
September, -	57.7	57.5	57.6	83	32	29.109	29.33	28.70	5	4	21	3.75
October, -	49.13	49.71	49.42	69	33	29.077	29.35	28.64	8	5	23	1.75
November, -	35.23	36.2	35.72	63	12	29.016	29.50	28.28	6	8	16	4.05
December, -	29.06	29.5	29.28	53	10	29.038	29.48	28.52	5	5	21	4.5
Means for the year, -	- - -	- - -	47.4	- -	- -	29.05	- - -	- - -	49	66	250	36.68

1843.	THERMOMETER.					BAROMETER.			Rainy Days.	Days slight showers.	Fair Days.	Rain in inches.
	Mean. 9 A.M.	Mean. 9 P.M.	Mean of both.	High'st	L'west	Mean Height.	Highest.	Lowest.				
January,	31.26	31.70	31.48	56	7	29.009	29.48	28.14	4	11	16	4.4
February,	17.1	20.14	18.62	39	0	28.933	29.35	28.45	4	9	15	3.1
March,	22.55	25.67	24.11	41	3	29.015	29.42	28.24	4	7	20	4.8
April, -	42.56	43.20	42.88	71	21	29.027	29.32	28.55	3	4	23	2.5
May, -	54.774	51.60	53.287	80	32	29.0875	29.40	28.74	2	6	23	1.4
June, -	63.07	62.80	62.93	89	38	29.045	29.31	28.72	2	7	21	1.2
July, -	70.2	67.22	68.7	91	50	29.119	29.36	28.90	2	6	23	1.3
August,	70.35	69.03	69.69	87	53	29.186	29.42	28.83	0	4	27	0.6
September,	63.2	62.7	63.	86	36	29.154	29.42	28.75	3	6	21	
October,	46.03	45.35	45.69	68	26	28.97	29.38	28.62	1	9	16	
November	35.4	36.4	35.9	57	20	29.088	29.45	28.50	7	8	15	
December,	33.	34.012	33.506	44	11	29.06	29.52	28.70	3	6	22	
Mns for yr.	- - -	- - -	48.816	- -	- -	29.055	- - -	- - -	40	23	242	
1844.												
January,	23.68	24.645	24.162	46	-3	28.99	29.40	28.20	4	9	18	
February,	28.13	31.51	29.82	47	10	29.081	29.41	28.77	2	8	19	
March,	35.48	35.4	35.44	57	13	29.048	29.48	28.50	7	5	29	
April, -	52.83	51.06	51.95	81	32	29.196	29.55	28.90	1	6	23	
May, -	58.7	57.06	57.88	80	35	29.039	29.43	28.56	4	13	14	
June, -	64.1	62.36	63.23	82	40	29.107	29.34	28.80	2	6	22	
July, -	69.226	67.45	68.338	85	55	29.098	29.30	28.83	2	8	21	
August,	66.42	65.064	65.742	87	50	29.045	29.35	28.68	4	11	16	
September	62.36	61.16	61.765	84	38	29.227	29.50	28.83	1	5	24	
October,	46.8	47.	46.9	69	27	29.09	29.44	28.38	4	6	21	
November	37.7	39.1	38.4	60	18	29.007	29.30	28.57	4	6	20	
December,	32.774	33.516	33.145	52	17	28.945	29.44	28.44	3	7	21	
Means for year,	- - -	- - -	48.064	- -	- -	29.081	- - -	- - -	38	90	238	
1845.												
January,	30.194	30.484	30.339	51	5	29.00	29.45	28.50	5	8	18	
February,	29.464	31.6	30.532	55	5	28.978	29.40	28.50	3	7	18	
March,	39.6	39.6	39.55	74	15	29.004	29.35	28.40	1	8	22	
April, -	46.36	45.83	46.1	73	20	29.031	29.30	28.77	3	7	20	
May, -	56.064	55.58	55.822	86	30	29.113	29.35	28.80	2	4	25	
June, -	66.6	63.6	65.1	87	45	29.088	29.34	28.72	3	5	22	
July, -	72.1	70.97	71.535	95	50	29.062	29.25	28.76	2	3	26	
August,	72.355	69.355	71.355	91	51	29.153	29.34	28.89	1	8	22	
September	61.06	57.76	59.41	78	46	29.037	29.37	28.75	6	9	15	
October,	47.55	48.25	47.9	70	24	29.175	29.49	28.66	5	4	22	
November	37.46	35.7	36.58	58	10	28.9	29.36	28.56	5	3	22	
December,	21.2	22.8	22.	38	3	29.036	29.42	28.52	3	3	25	
Mns for yr.	- - -	- - -	48.043	- -	- -	29.048	- - -	- - -	39	69	257	

NOTE.—The Thermometers were in a northern exposure, five feet from the ground, and shaded from the effects of direct insolation and radiation to the sky; their height and that of the Barometer registered daily at 9 o'clock, A.M., and 9, P.M. For the first four years the daily maximum and minimum of the Thermometer were also registered, and included in the calculation of the Mean Temperature. Subsequently the Monthly Maximum and Minimum only were noted.

*Anniversary Address, to the New York Medical and Surgical Society, by F. CAMPBELL STEWART, M.D., delivered January 3d, 1846. New York.*

We have, in a previous number of this Journal, advised our readers of the attempt now being made by the profession of the United States, through a contemplated convention to be holden in the city of New York, and which is fixed for the first Tuesday of May next, to elevate the character of the profession generally in that country, by raising the standard of education for all aspirants to the honour of practising it. It has often been a matter of surprise to us, that an attempt of this kind has not been made long ago. The necessity for it has been long acknowledged; but we have not seen hitherto the absolute need of such a reform, more clearly and more forcibly depicted, than in the admirable address, which it now falls to our lot to notice. It comes to us moreover at a particularly opportune period, when our own local Legislature is about enacting laws for the government of the profession here. It may serve them as a beacon, warning them of the impolicy, the impropriety, and the danger of applying "*free trade principles*" to matters of medical education; and admitting that, as a *profession*, they are not held in high estimation even "in their own country," and "that they are far behind the medical communities of other countries;" and tracing this "to the wrong and faulty system of education established among them;" it should render our own Legislature exceedingly cautious, in the admission of persons holding American diplomas to practice in this colony. Whatever faults there may be in the professional education of graduates in medicine in our universities, we yet think it immeasurably superior to *that of any* in the United States. This may be thought a bold assertion, but those acquainted with the subject will admit its correctness. Here we have attempted to transplant the British standard; and although in some respects, attributable less to the will than the means, it may fall short of the perfection of the original, we still view it as far superior to that of our neighbours.

The subject of the Address, "is the actual condition of the medical profession in the United States; with a brief account of some of the causes which tend to impede its progress, or interfere with its honours and interests." In the discussion of this grave matter, one of paramount importance at the present time, the author addresses himself to his subject with a candour and freedom from all party bias, which is highly creditable to him. It will be recollected, that in handling a subject of this kind, he treads on tender ground. To expose the errors of a faulty system of education, at the risk of encountering the hostility of a myriad of professors, to

the most of whom it furnishes their means of livelihood, nay, almost their very existence, would savour of a rashness, to be visited condignly on the offender; to tell the world at large, in plain and unvarnished language, of the low estimation in which, as a profession, they are esteemed, and to point out the causes of it, causes, too, dependent on themselves, would be certain to attract the denunciation of that profession whose vanity has been thus any thing but flattered. The author, however, has executed his task with ability. We think that there are few who will find fault with the manner in which he has handled his subject; fewer still—true friends of the profession,—who will regret the exposée, because the more likely to be attended with profitable results.

The author, in the first place, inquires into "the actual condition of the profession in the United States, and its relative position, compared with that which it occupies in other countries." With reference to its social standing, he observes:—

In its social relations to the community, I am proud that the medical profession of the United States, occupies a more elevated and lofty station than that enjoyed in any other country of the world. Here, owing to the nature and tenor of our institutions, members of the learned professions occupy the first rank in general society; and in the absence of all hereditary distinctions, physicians, with lawyers, hold an enviable position, and are regarded by the community in so favorable a light as to be second only in its estimation to the pious and educated divine. The road to honors and distinction in every department of the public service, and in every station in life, is open to us as well as to others; and we often see members of our profession occupying distinguished political situations of emolument and trust, from which, in the older countries of Europe, they are, for the most part, from the simple fact of their being medical men, almost wholly excluded.

Here, in all parts of the country, we are individually honored and esteemed; in the smaller towns and settlements, we are looked up to on important occasions for assistance and counsel, and our opinions and advice ever command the most respectful attention and consideration. Our society is everywhere courted by the intelligent and honest citizen; and we are always regarded in the light of honored family friends by those who employ us, and place a degree of confidence and reliance in our honor and integrity, which, whilst most flattering and grateful, should lead us to contemplate seriously the nature and extent of the obligations which it forces us to incur, and which it should be our duty and pleasure to render ourselves capable of discharging in a becoming and proper manner.

In some parts of the old world, so low is the condition of our profession in its relation to the general community, that physicians are considered rather in the light of hired menials, than as gentlemen and scholars, entitled by education to be regarded as on a footing of perfect equality with the most accomplished members of all civilized and refined society. Abroad, the medical man belongs to a cast which is considered comparatively low, and, although sometimes tolerated by his supposed superiors belonging to the higher circles, he is but rarely received either in England or France on a footing of acknowledged equality by the higher aristocracy, and in some parts of Italy and other portions of the Continent, he occupies a position almost degrading.

Here, on the contrary, we claim and receive from the community the high consideration to which we conceive ourselves to be entitled, and which, notwithstanding occasional attempts to injure us collectively, we always find freely accorded to us in our individual capacities.

Whatever may *have been* the frigid rules which an aristocracy may have interposed between themselves and

the medical profession of England and France, we think they are fast disappearing. The profession in both these countries is highly esteemed; but there is this difference, that the esteem is based on no fictitious grounds. It is not because they are members of a liberal profession that their social standing has become elevated, but in consequence of the varied and extensive information which they *must have acquired* before they could have become members of it, and which renders them worthy of that estimation, which is, in our opinion, freely and very generally accorded.

But, however high may be the individual position which is accredited to members of the profession in the United States, as a profession collectively it appears that even in their own country they are lightly esteemed; and, as proofs of the declaration, the author points "to the open and unconcealed encouragement of quackery in all its multiplied forms and varieties;" "to the constant endeavour to find fault with, condemn, and ridicule the art and those who practise it;" "to the action of the Legislatures of some of the States, "who have, in some instances, succeeded in throwing the practice of medicine open, and making it free to all who choose to engage in it, without requiring from them any guarantee of their capability to treat disease;" and "to the application of principles of *free trade* to the practice of medicine;" and to which we may add, to the teaching of it, both of which, in reality, are the fertile sources of the evils which are so much to be deplored.

Our limits will not permit us to enter too much at length into the various topics which are touched upon in the essay, but we cannot avoid noticing the system of medical education, which has taken deep root, and flourished in the United States; for, assuredly, if the "same scientific consideration" is not awarded to the profession generally in that country, as in others in which the standard of medical acquirements are more elevated, the reason is an obvious one, and the remedy equally so. The task, doubtless, is a difficult one, so many and so conflicting are the interests which are involved; *but it must be executed*; and although in the process, the pruning knife may lop off some scores of petty colleges, whose diploma-giving propensities, along with themselves, would be thereby annihilated, yet the general good of the profession will be secured, and its character enhanced; but on this point we will allow our author to speak for himself:—

Let us now examine the question, whether we are really entitled by our intrinsic merits to the same scientific consideration as our professional brethren in other parts of the world! In a word, is our standard of learning and acquirement as high as it should be, to entitle us to consider ourselves as on a footing of scientific equality with the physicians of other countries, and such as to justify us in demanding, as a matter of right, an unbounded con-

fidence from those who employ us, and place faith in our professions of capability?

This is a most delicate question, and demands a careful and attentive examination. We are all, for the most part, unwilling to admit our inferiority in anything to which we have devoted a special attention, and in which we desire to be considered proficient; it is only natural and to be expected, that we should hold ourselves equal to others of the same calling; and it is but very rarely that we can bring ourselves to admit, particularly in the cases of professional men, that we have superiors.

At the threshold of this investigation, I am bound to acknowledge that, in science at least, the profession in this country is far behind the medical communities of other countries, and this I think is wholly owing to the wrong and faulty system of medical education established amongst us; a system so defective as not only to have attracted the attention of foreigners, but to have led to a loud call from the disinterested and well informed portion of our own Faculty, for a thorough remodelling.

With the exception of some few attempts to support the present system, originating with parties whose position is such as to warrant the conclusion that they must be more or less influenced by personal interest in advocating it, I believe that the feeling may be considered as almost universal in favor of the adoption of a more extensive course of general and professional instruction, and the establishment of a higher standard of medical acquirement.

To aid us in investigating this subject, I will present a statement of what is required by our Medical Colleges of their students, before they will allow them to apply for an examination, or accord them the honors of a Degree, and by comparing these with the requirements exacted by the medical boards of other countries, we shall be able to see in what the difference consists, and why it is that our physicians, at least at the period when they first become such, are not entitled to be considered on an equal scientific footing with those of other parts of the world.

At most, if not all the chief Medical Schools of the United States, it is exacted from Students who apply for Degrees, that they shall produce evidence.

- 1st. Of their having studied in the office of a Practitioner.
- 2nd. Of their having attended during two courses of lectures at a Medical College.
- 3d. That they shall have composed a Thesis; and
- 4th. That they shall have complied with some minor general regulations.

There is no preliminary examination, and no means are resorted to for ascertaining whether a young man is capable, by previous preparation, of profiting by the lessons of his instructors, or likely to make hereafter a competent and useful Physician. He may be thoroughly well grounded in the various branches of science, and his general knowledge may be most extensive; or he may be, as I have known, so ignorant and illiterate as to be unable to write his own language, or translate the Latin of the Diploma which he is striving to obtain. He is not put to the proof, and no evidence is exacted of his having complied even with those few rules, other than his simple assertion, or at most the exhibition of his tickets, which is rather required as a proof of his having paid for them, than as any evidence that he has attended the lectures to which they give him admission.

Having fulfilled these obligations, he is admitted to an examination, and receives his Degree, or is rejected.

The character of this examination is generally such that a student who cannot undergo it must be woefully ignorant indeed. Hence, the rejection of candidates is with us, a matter of exceedingly rare occurrence, and almost all who have complied with the most essential requisite of paying their teachers, are sure to be honored with the title to which they aspire.

At all the principal Universities and Colleges in Great Britain, Ireland, and on the Continent, where medicine is taught, the courses of instruction are much more complete and perfect than with us. At London, Edinburgh, Paris, Dublin, and other seats of Medical schools, students are afforded many more, and much greater facilities for acquiring a thorough medical education, and the period of study is not only much longer, and the subjects taught more numerous, but the preliminary and final examinations are of a character to render it certain, that the candidate who obtains their Diploma must be a qualified and thoroughly well educated physician.

The courses of instruction at our Colleges embrace, for the most part, six subjects, which are professed to be taught in two years, or rather in two periods of less than four months each, so that with a moderate degree of attention, and a fair share of common sense, any one, with us, may acquire the knowledge considered as necessary for a physician, and obtain a license to practice, after about *eight months'* college study! And this too under circumstances in every respect unfavorable; such as a continual and irksome attendance on lectures on different subjects, during a great part of every day, leaving neither time for study and preparation, nor for relaxation or dissection. More time is devoted in other countries to the study of the fundamental science of anatomy alone, than is allowed to our students for perfecting themselves in all the branches of a medical education.

Whilst for the most part, then, seven or eight months' attendance on lectures is required by the regulations of our Medical Colleges, in Europe four years are considered as scarcely sufficient; and that, too, after a preparatory course of study calculated to enlarge and strengthen the mind, and render it fit for receiving the more difficult and important professional knowledge which is to be subsequently imparted.

All the more important subjects, and especially practical anatomy, and clinical medicine and surgery, are there thoroughly taught. The student is not only required to dissect, but is examined on Dissection, whereas, here, a very irregular attendance on the Dissecting-room, probably during a few evenings only in each session, is all that is expected of our pupils, and indeed, in some cases, they are notified publicly, beforehand, that though advised to do so, they will not be required to dissect at all. Whilst it is considered of paramount importance abroad, and is so in reality, little or no attention to Hospital practice is required from the student here. Some of our colleges exact from him that he shall purchase a ticket of admission to an hospital, when one is convenient, but there the matter rests. And this even is not always required; and is not obligatory on them to do so, how can it be expected that students, when they have so much else to attend to, will go to the expense of procuring a ticket, or after getting it, will take the trouble to attend the practice of these institutions? That they do not do so, is, I think, very evident, from the fact that out of upwards of six hundred in attendance at the New York Colleges during the present session, only about one in eight have applied for the privilege of visiting our City Hospital! And yet this is known to be the only one here to which they can obtain access. The all important branch of clinical instruction then is not taught to students here, at all events in a satisfactory manner; for the clinics attached to the schools in this city, in Philadelphia, and elsewhere, though useful, can never present to them the advantages that they would derive from examining patients, and following their treatment, in a regular and well organized hospital, and under the direction of qualified teachers.

Botany, Medical Jurisprudence, Practical Chemistry and Pharmacy, Pathology, and some other subjects considered essential to a medical education abroad, are nowhere taught properly, or as separate branches, in the medical schools of our country; and the student's knowledge of them, if obtained at all, must be gained by close study and application at home, after he has gotten his diploma, and left college.

It is the want of a thorough and efficient course of education here, that induces so many of our young graduates to go abroad for the purpose of gaining knowledge which they ought to be able to obtain at home; and I may venture to assert, that if proper use was made of the advantages possessed by our large cities for affording medical instruction in all its departments, and if our schools would at once adopt a high standard of professional acquirements, Paris and London would soon cease to present the superior attractions which they now do, and our young men would seek at home the information which it now costs them so much trouble and expense to obtain in foreign countries.

It is most humiliating to us to know that none of our colleges are recognized by European schools as on a footing of full equality, and that alumni here are not thought entitled to be held as equals with students. And yet such is the fact, and most keenly do some of our spirited and high-minded young men feel it to be so. I have known them ashamed to acknowledge that they were graduates, and the M.D. so coveted, and so ostentatiously displayed

at home, at least whilst it is new, I have seen erased from their cards when abroad.

So satisfied are some of them that they are not prepared to defend the title with which they have been inconsiderately honored, that they prefer to appear simply as students, from whom much less is to be expected than might be looked for in persons bearing the full and highest honors of the profession. It is for the want of a thorough education here, that our young physicians are compelled to enter themselves as the students of students when they go abroad, and thus to admit that though graduates, they are wanting in the knowledge possessed by undergraduates.

It is a gross error to suppose that the high standard of medical education established in Europe, is the result of wealth, and that it is impracticable to introduce it into this country, as has been asserted by a venerable author here, whose lecture on the subject, and in defence of our present system, has been so severely criticised, that I shall make no other commentary on it, than to point to the bright examples to be found amongst the most eminent and renowned physicians of Paris and London, many of whom have had to encounter a degree of abject poverty unknown in our country, and who have, nevertheless, gradually risen to fill the proud position which they now occupy.\*

Besides the estimate in which it is held abroad, in what light is this subject considered at home? The editors of many of our medical journals admit frankly that our whole plan of education is most faulty; and numerous recent writers, in advocating the call for a general convention, declare that the defects of the present system are so glaring, that a change is absolutely required. One of them makes use of the following strong language in reference to the subject:—

"We have always advocated a higher standard of medical attainment for graduating in medicine, and a sufficient preparatory education to place physicians on a par with other learned professions; but we have seen so much of the levelling system; so much pandering to popularity; such audacious promises on the part of medical schools, to gull pupils; such pretensions to cheapness in board; such mock examinations for degrees; such drumming up of students; and such underbidding in the price of tickets; in short, such artifices, and tricks, and manoeuvres, for the sake of putting a few dollars in the pocket, that we have almost lost our early faith in the practicability of medical reform, at least to that extent to which it ought to be carried in order to accomplish the desired end."

There is no school here, whose certificate our army and navy examiners can take as a sufficient guarantee of the qualifications of candidates for admission as medical officers into either of these branches of the public service: they are obliged to form a standard of their own, and the numerous rejections of young men, mostly graduates, whom they examine, show conclusively that it is higher than that of the colleges generally.†

The possessors of them do not always appreciate the diplomas which are so easily obtained, and which they in many instances know and feel that they do not deserve. A young man applied to me a short time since to take him as a pupil, and on my asking if he had yet undergone his examination, he answered me "yes, he was a graduate of such a college;" but with great naïveté added, "that he did not think he ought to have a diploma or that it could be worth much."

A gentleman, likewise a graduate, in indicating to another, in my presence, some of the numerous advantages which he might derive from visiting Paris, stated that "he had on obtaining his diploma here, considered himself to be a good anatomist, a good chemist, and a good surgeon; that he thought he was a competent physician, and quite as well informed in his profession as any one else. He had gone abroad, however, and he had been but a short time in France when he was ashamed to find how ignorant he was, even in the branches in which he had supposed himself accomplished. He soon ascertained that his whole course of study

\* The celebrated Velpeau, one of the most distinguished men in our profession was so poor when a student, that he was forced to live on coarse ammunition bread and water. For a long period his daily expenses were limited to nine cents, and he supported himself for three months, in Paris, on twenty dollars.

† "A medical board for the examination of applicants for appointment to the medical staff of the army, was convened in the city of New York, on the 1st of July last. Before this board 15 candidates were invited to present themselves, 10 of whom only appeared and were examined; and of these last but 2 were approved and recommended for appointment."—Report of the Surgeon General, United States Army.

was to be gone over again, and that he literally knew nothing, and was far behindhand with junior colleagues with whom he was brought into contact."

A system, then, which is so universally admitted to be defective must stand in need of amendment, and it appears to me that a period has now arrived when a bold step may be advantageously taken in favor of reform, and the introduction of, if not a European, at least a higher standard of medical education amongst us; and the school or schools that shall adopt it, though they may for a time experience a loss in the diminished number of their pupils, will eventually, and certainly, find their reward in the increased value that will attach to their diplomas.

We can most of us recollect the time when the Edinburgh or London Degree was almost necessary for the physician who expected success in his profession;\* it is now almost equally necessary for those who would succeed, to have enjoyed the advantages of Paris. The public, having no other sure guide, formerly esteemed a physician in proportion as the university from which he received his degree was estimated; and now that we have so many schools, and so many incompetent physicians, and are so surrounded by quacks—rogue-doctors—or those who arrogate to themselves the title, people will begin to look about them again, and make enquiries as to the relative standing of the various colleges, with the view of employing those physicians who shall bear the diploma of that institution which is known to give the most full and perfect course of instruction.

It would almost seem from the course pursued by them, that many of our colleges are disposed to offer bounties to young men, and entice them away from honest mechanical trades, to engage in the study of medicine.† So easy and cheap do they make it appear, is the effort necessary for gaining a license, that numbers are induced to study, who would never for a moment think of doing so, if moderate restrictions were imposed, and they were required to devote a reasonable proportion of time to attendance on lectures.

The result of this is, that hundreds gain entrance to the profession who are wholly unfitted for fulfilling the high duties devolving upon practitioners; and this evil must continue so long as the efforts of our medical schools are directed to the end of obtaining the largest classes, and sending forth the greatest number of graduates. So long as they trust for reputation on the number, rather than the character, of their alumni, our country will be annually flooded with imperfectly and half-educated physicians, many of whom must, from absolute necessity, be forced to resort to means for gaining a livelihood, calculated to degrade them in their own and in the public estimation, and to produce a ruinous influence on the profession.

*Valedictory Address, delivered before the Baltimore College of Dental Surgery, at its Sixth Annual Commencement, February 17, 1846. By CHAPIN A. HARRIS, M. D., D. D. S., Prof. of Practical Dentistry and Dental Pathology. Baltimore, 1846.*

A great deal of trash annually, nay sometimes semi-annually, issues from the fertile press of the United States, in the shape of opening addresses, introductory lectures, &c., from professors to their classes; occasionally, but rarely, something really good and original is presented to us, although not unfrequently a few "psychological phenomena" are to be found, whose vanity overcoming their discretion, leads them to retail, in a wholesale manner, the thoughts and ideas of abler and wiser heads than their own. Some remarkable

examples of the latter were exhibited to an admiring profession by the New-York *Lancet*, during its short but vigorous career.

About six years ago, the first College of Dental Surgery was established at Baltimore, and its prosperity has been gradually advancing. When we consider that until the period mentioned, information in Dental surgery was almost self-acquired, that the collation of facts for the purpose of establishing the relative value of different lines of Dental practice was a matter of difficulty, that the resources of individual members, each insulated from his neighbour, almost precluded the acquisition of material in a proper manner, for required induction, that consequently the practice assumed the features of a pure empiricism, we cannot, nay, the public cannot but rejoice in the endowment of an institution, in which instruction in so important a part of surgery may be acquired.

The course of education demanded for graduation, though specific in its end and object, appears, from what we have seen of its announcements, to be ample, and well suited to the purpose intended. The college, as we have remarked, is prospering, and we hope it may still further prosper, annually sending forth a corps of graduates, well qualified to sustain the reputation of their *alma-mater*, by practising in their department with credit to themselves and benefit to the community.

In compositions of the nature of the one now before us, the prevailing fault is the too free use of hyperbolic expressions. The lecturer usually attempts to exalt the particular branch of which he is the teacher; and although we may palliate or excuse the commission of the fault, it is one, we consider, that derogates very materially from the value of the address. It is but mere tinsel, for the subject most usually, like gold which requires no gilding, looks better, and is in reality more attractive, when not dressed up, as it were for the purpose of an exhibition—as it were with meretricious ornaments. This address, however, though somewhat tinted with this fault, is much less so than those we usually see. It is practical, and couched in language occasionally beautiful. We make the following extract, as in its application it will be found to bear upon graduates of every university:—

Gentlemen going abroad into the business of a busy world, from a dental college, bearing in their hands its diplomas and its testimonials of confidence, have upon them the vows, either expressed or implied, to do more worthily than others—to go out as alumni of an *alma-mater*, who has cared for them as children, and dismissed them with her blessing. It is worth years of study and toil, to leave a name on record in the archives of some hall of science—some dear place to be connected in the mind, through all coming years of life, with early studies, blossoming hopes, and high aspirations of usefulness. But such connection imposes on

\* There are, however, numerous exceptions to this general rule, for we have amongst us some fully qualified and highly accomplished physicians who are self-made men, and who never enjoyed the advantages afforded to those who study in Europe.

† As some of our country medical schools, students are allowed to pay their professors with due-bills, or notes, to be redeemed at some future period, when the young men shall have accumulated enough money to enable them to cancel the obligation.



the honourable mind the double duty of acting for its own welfare, and for that of the college at which the armour for a prosperous and honourable life was burnished and put on. The Baltimore College of Dental Surgery would fain count on each graduate as a friend—a son, who, when the sun of its prosperity shall culminate high, shall glory in its ascendancy, and feel a filial pride in its fortunes; or who, should blight fall upon its prospects, would then, with a giant's strength, lay hold of the great sources of public influence, and compel them to pay tribute to an institution which had given him the power of being a benefactor to his fellow man. Yes! and if misfortune frowned darkly upon that college, the birth-place of his genius, the nursery of his mental ability and artist-like facility of execution, would he not be the first to contribute to build a worthier temple for science, and a prouder home for this eminently useful branch of surgery? Thus must any institution—thus must any college gain strength from small beginnings—each year gaining friendship from each graduate it sends abroad; and when those alumni, by good conduct and the prosecution of a liberal art, gain both reputation and fortune for themselves, then is the time reasonably to expect the exercise of a well-earned influence in society in favour of an infant college, so that graduates, acting worthy the institution of their matriculation, are sent out into the world, like money loaned at compound interest—the longer they are out, the greater the physical and moral accumulation in favour of the lenders of good, virtuous citizens, faithful and able practitioners to a community that had suffered long and much at the hands of empiricism and unskilfulness. May such be the rich endowments of the Baltimore College of Dental Surgery; and of such alumni may the College, like the Roman matron, ever proudly say,—“These are my jewels.”

With the talented lecturer, we may be permitted the sincere aspiration, that none of the graduates of the Baltimore College will ever prove recreant to their graduation vows, but will always retain a lively recollection of their duty to their alma-mater, doing nothing that would either mar its prosperity or tend to blight its usefulness.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### A SIMPLE INTRODUCTION TO THE CLINICAL CHEMISTRY OF THE URINE.

Under this title, a communication from an anonymous correspondent, appears in a late number of the *Medical Gazette*. The directions which it gives for this investigation are sufficient for all practical purposes. Its perusal, in an abbreviated form, will repay the reader.

“The urine should, for all purposes of examination, be collected clear from admixture of dust or other impurities. The morning's urine is generally employed, as it is difficult to obtain that passed during the whole twenty-four hours; but the quantity passed during this space of time should be noted; and, also, it should be ascertained whether this is greater or less than the quantity usually passed by the patient during that space of time. The note should also state what urine was examined, whether the morning's, or that passed in the course of the day.

“The characters of the fluid should then be observed—best in the glass in which the specific gravity is presently to be taken, its reaction on test-paper, and any sediment that it may have deposited. The latter should be examined under the microscope. The acid and alkaline reaction is shown by blue and red litmus-paper.

“If the urine is acid, turbid, with a red deposit staining the sides of the vessel, we know at once that the urates are in excess; if alkaline, or even acid, of a pale colour, slightly turbid, with a light cloud floating in it, and an iridescent pellicle on the top, we presume the phosphates to be in excess, and this the more if the urine is highly offensive to the smell, and full of mucous strings. A clear pale

urine may be found in connexion with hysteria, with Bright's disease of the kidney, or with diabetes. A smoky colour is very indicative of Bright's disease; (a yellowish tint on the sides of the vessel, or communicated to linen, indicates the presence of bile;) and a greenish tint should remind us to look for crystals of oxalate of lime.

“The specific gravity is best estimated by means of a common hydrometer, made for the purpose, contained in a strong glass tube, in which it may be floated when required. It should be allowed to sink gently down to its level, as all the fluid that collects upon it higher up tends to weigh it down, and makes the urine seem of lighter specific gravity than it really is. High specific gravity, that is to say, all above 1025, may denote diabetes, or may result from the patient, at the time, employing diuretic salts. Low specific gravity, or below 1014, may be connected with granular degeneration of the kidney. The specific gravity, in connexion with what has been already noted concerning the colour and reaction of the fluid, is to guide us in the subsequent application of our tests.

“Heat and nitric acid are, for most purposes, enough; their effects are best witnessed in common test tubes, into which the urine may readily be poured, even from a large vessel, by using one tube as the guide, down the side of which the fluid may run into the other.

“Urine of a low specific gravity had better be heated, and if a precipitate forms, a few drops of nitric acid should be added. If the precipitate re-dissolves, it is to be considered indicative of the presence of the phosphates in excess; if it do not dissolve, but be rather increased by the addition of the acid, it is albumen. It is to be remembered that a precipitation of the phosphates by heat may take place as well in acid as in alkaline urine.

“To urine of a higher specific gravity nitric acid may be added at once. Every precipitate that forms may be uric acid or albumen. To determine this, the fluid should be heated, when the precipitated uric acid will be re-dissolved, the albumen will remain coagulated. A partial or entire solution of the precipitate, by long-continued heat, may denote so interesting a form of disease, that the beginner would do well to call in the aid of a more experienced chemist under such circumstances. The results thus obtained should not be lost; the tubes must be set by for a day, and then it should be noted, by the aid of a common pocket measure, how high the precipitate stands in the fluid, occupying, for example, half, a third, or an eighth part, as the case may be. The quantity of little crystals of uric acid that have dusted over the inside of the tube should also, at the same time, be looked to.

“If precipitate forms, a reference to the specific gravity must tell us whether there is anything more to be expected, or whether we may presume that we are dealing with healthy urine. If the specific gravity be high, and the reagents have produced only slight effects, the nature of the case may tell us whether it be worth while to look for sugar in the urine. This is most satisfactorily effected by means of fermentation; about two drachms of the urine being introduced, with a little yeast, into a phial with a perforated cork, through which the longer leg of a bent tube passes, and the whole inverted in a cup of water, where another phial, filled with water and inverted, is to receive the short leg of the tube. At a temperature above 60°, any sugar that may be present will begin to be decomposed, and carbonic acid will collect and remain for some time unabsorbed in the other phial. If no gas collects, there is no sugar in the urine; but there may have been albumen which we have failed to detect from not adding enough acid, for a little nitric acid only renders the albumen uncoagulable; forms, in fact, a soluble nitrate, which is not precipitated by heat. A few additional drops of nitric acid will prevent any error from this cause, by at once precipitating the albumen.



"It remains now to consider those cases where the urine evidently contains some soluble matter in excess, which, however, is neither albumen nor uric acid, and to notice a few appearances which are sometimes perplexing to a beginner. A free effervescence may arise either from the presence of the carbonate of an alkali, or the decomposition of urea, or that of uric acid. The first case might be solved by looking to see what the patient is taking, all neutral salts, with vegetable acids, being converted into carbonates of that base during their passage into the urine. The second is best determined by setting aside two drachms of urine in a saucer, with about a quarter of its volume of nitric acid, of course, without having applied heat, when the appearance of crystals denotes an excess of urea. The third is best solved by adding a few drops of any acid to the urine in a tube, and observing, as before recommended, the number of crystals that have formed by the ensuing day.

"The flaky precipitates, recognised to be albumen, may be seen sometimes yellow, sometimes red or pink, or covered with air bubbles. For the present, it is enough to state, that these appearances result from the decomposition of the uric acid by the nitric acid, which deepens the colour of the urine, or of the urea, or any substances, as above, which effervesce on the addition of this reagent; or, lastly, the yellow colour may arise from their being nothing present to prevent the nitric acid producing this its ordinary effect upon animal substances.

"The sum of these remarks is this. That the urine deviates from the condition of health most commonly in a few particular ways, whether by an excess or deficiency of its normal constituents, or by the presence of matters which should not exist at all in the urine."

The chemical study of the morbid conditions of the urine is thus shown not to be so difficult as many have believed it to be. Without attention to them, our therapeutics are a dead letter, and here are the means of preventing such a result: they are sufficiently simple and ready of application.—*Lancet*.

## SURGERY.

### LECTURE ON THE DISEASES OF THE KNEE JOINT.

By Sir B. C. BRODIE, Bart.

I propose to give you some lectures on the Diseases of the Knee-joint. I am induced to do so for the following reasons:—First, I really do not know that there is any subject in surgery with which it is more important that you should be acquainted, than this. Diseases are more common in the knee than in the other joints; they cause great anxiety to the patient, and, of course, to the surgeon also: and at the same time they are very much under the dominion of art. Secondly, although my principal observations on the subject have been already published in my work *On Diseases of the Joints*, yet they are not there brought under view at the same time: they are to be found, some in one chapter and some in another, and I think it will be useful to you for me to collect them, and bring the whole subject before you in this and the following lectures.

#### *Inflammation of the synovial membrane.*

The diseases of the knee-joint are various; some begin in the harder, others in the softer textures. That which is of the most frequent occurrence belongs to the latter order, being an inflammatory affection of the lining membrane.

You will bear in mind the anatomy and function of the synovial membrane. In its structure it very much resembles the serous membranes. Like them, it is a reflected membrane, secreting a lubricating fluid, for the purpose of

facilitating motion. It passes from one bone to the other; it lines the lateral and posterior ligaments of the knee; it covers the crucial ligaments; it is reflected over the bones and the articular cartilages.

I shall describe, first, the appearances which are exhibited on dissection, where the synovial membrane has been inflamed. Secondly, I shall point out the circumstances under which the disease manifests itself, and the causes which produce it, as far as it is possible for us to trace them: and, lastly, the treatment which is necessary for its cure.

Although inflammation of the synovial membrane is a very common disease, the opportunities of examining the morbid appearances which it presents in its earlier stage are, for obvious reasons, of rare occurrence. However, we meet with them occasionally. When the inflammation is slight, the membrane is a little more vascular than natural, and the joint contains an increased quantity of fluid. It cannot exactly be said that there is an increased quantity of synovia, for the fluid (at least in the great majority of cases) rather resembles serum, and is more or less turbid. In other cases the vascularity of the synovial membrane is very much increased. I have known it to be as much discoloured as the tunica conjunctiva under violent ophthalmia, its inner surface being, at the same time, to a greater or less extent, encrusted with coagulable lymph. These appearances are represented in the drawing which I now shew you.

So far the appearances resemble those of inflammation of a serous membrane; but when the disease has been of long duration, a change takes place in the condition of the synovial membrane, quite different from what is ever observed in the serous membranes. It becomes thickened, of a soft pulpy consistence; the inner surface is no longer smooth and uniform, but processes of soft vascular substance project from it, in the manner of fringes, into the cavity of the joint. There is an excellent series, both of preparations and of drawings, on the table, showing all these appearances. The drawings especially are very instructive, having been made from the recent subject previously to the parts being immersed in alcohol.

In the commencement of this disease the morbid changes are, of course, confined to the synovial membrane; in a more advanced stage these changes extend to the other textures. That portion of the membrane which covers the cartilages, though it resists the disease in the first instance, becomes affected afterwards. The cartilages themselves adhere less closely to the bone than under ordinary circumstances, and by-and-bye they begin to ulcerate; generally on the patella in the first instance, on the femur and tibia afterwards. The appearances of ulceration of the cartilage in its various stages are represented in these drawings.

I call the process by which, in these cases, the cartilage is absorbed, *ulceration*. It seems to me to correspond, in all essential circumstances, to ulceration of soft parts. It is consequent on inflammation; and although it may proceed to a considerable extent without suppuration, it is followed by suppuration ultimately. Many facts, not only in the history of diseases of the joints, but in the history of other diseases also, justify the opinion that the secretion of pus, although the usual is not the necessary concomitant of ulceration.

There has been, however, some question as to the manner in which the absorption or ulceration of the articular cartilages takes place. It has been said that cartilage in itself is incapable of ulceration, and that the absorption of it is accomplished only through the agency of those fringes of the synovial membrane which you have seen lying in contact with its surface. In a future lecture I shall adduce what I believe to be sufficient reasons for the opinion that this view of the subject is not well founded, and that there

is no essential difference between the process of ulceration in cartilage and in other textures.

I have already stated that the fluid found in the cavity of the joint, when the synovial membrane is inflamed, is serous. In cases of a slight degree of inflammation, it is slightly turbid; in severer cases it is very turbid, with flakes of coagulated lymph floating in it. Under certain circumstances the synovial membrane will secrete, not mere serum, but actual pus. In like manner, serous membranes occasionally secrete pus, though, under ordinary circumstances, they merely secrete serum. The cavity of the knee-joint is then converted into one large abscess; the abscess being bounded in some parts by inflamed synovial membrane, and in others by the bones of the joint. I say by the bones of the joint; for the cartilages, whenever they come in contact with the purulent secretion, become absorbed.

Now, let us suppose that there has been inflammation of the synovial membrane, and that it has subsided. In what condition is the joint afterwards? Sometimes the membrane is left thickened, of a gristly texture, and that may happen even where the cartilages and bones have altogether escaped the invasion of the disease. In other cases, the cartilages being absorbed, the cavity of the joint is completely filled up by the thickened synovial membrane, and the coagulated lymph effused from its surface. These parts all adhere the one to the other, and anchylosis by soft substance, in the first instance, and by bony substance ultimately, is the consequence. However, complete anchylosis does not occur except the cartilages have been completely absorbed. Where the cartilages have been only partially absorbed, a healing process is established. A kind of membrane is formed upon the surface of the bone in the place of the cartilage, and the joint retains its complete mobility.

Inflammation of the synovial membrane of the knee-joint may take place under a great variety of circumstances. It may be the result of local injury, such as a punctured wound, a contusion, or a severe wrench, and then it is altogether a local disease. In other cases, and more frequently, it is produced by causes that operate on the general system, and it must be considered as a symptom of a constitutional malady. A patient, for instance, is exposed to wet and cold: this is followed by pains in the limbs; by-and-bye one knee-joint becomes painful, swollen, and the synovial membrane is inflamed. It is said that the inflammation is consequent upon checked perspiration, and the disease is called rheumatic inflammation. I have no doubt that this explanation is correct. There is something noxious in the system that is expelled from the skin by perspiration, and hence it is that whenever the skin ceases to perspire the general system suffers. In other cases the disease occurs in a person who leads an easy life, who indulges in eating and drinking, and takes but little exercise, whose urine is high coloured, depositing a sediment of lithate of ammonia, staining the chamber-pot of a red colour. I need not tell you that I am describing a gouty patient. Nothing is more common than for this gouty condition of the system to manifest itself by producing inflammation of the synovial membrane of the knee. If I were asked—What is the most common cause of inflammation of the synovial membrane of this or of any other joints, in the affluent classes of society? I should answer, The gouty poison in the system: the existence of which poison is indicated by a too abundant formation of lithic acid. Many persons thus affected will not allow that they are actually gouty; nevertheless, you may be assured that a large proportion of the diseases of the affluent classes have this gouty origin. These observations are of practical importance. The origin of inflammation of the synovial mem-

brane in the lower, is generally different from that in the higher classes; and in either the one or the other anything that disturbs the constitution may produce it; for example, the syphilitic poison, the unguarded exhibition of mercury, or general cachexia from other causes.

We distinguish acute from chronic inflammation of the synovial membrane, and it is convenient to make this distinction; yet it is one made rather for the purpose of helping us in our investigations, than because it corresponds exactly to the reality of things. There are some cases in which you say at once, here is acute, and others in which you say, here is chronic inflammation, but there are a great number of cases which lie between the two, and in which you cannot very well say that they belong to the one class or to the other. In a large proportion of cases the character of acute inflammation predominates in the first instance, and that of chronic afterwards.

We will assume that the case is one of acute inflammation of the synovial membrane of the knee. The patient complains of pain in the joint, and it is stiff. It is very likely that the pain attacks him quite suddenly, as if a pen-knife had been run into the joint; but sometimes it comes on gradually: at all events, in the course of time, varying from a few hours to one or two days, the joint begins to swell, in consequence of the effusion of fluid into it. The swelling increases, the joint becomes exceedingly distended, and there is not only the pain of inflammation, but of tension, and not of mere tension, but of the tension of an inflamed part. Constitutional disturbance supervenes, indicated by a frequent pulse, hot skin, furred tongue, restlessness, and want of sleep. The joint becomes tender to the touch, and the patient cannot bear to move it. Recollecting the anatomy of the knee-joint, you will know what the form of the swelling must necessarily be. The synovial membrane being distended, it will bulge out in those parts in which there is the least resistance. The ligaments behind and on the side of the joint prevent the swelling bulging in these directions, whereas the loose cellular membrane under the extensor muscles of the thigh allow it to extend up the anterior part of the thigh, so that the fluctuation of the fluid is quite distinct above the patella, the patella itself being elevated by the fluid underneath. The appearance is very characteristic, and when once you have seen it you will never mistake it. These symptoms proceed until the inflammation is subdued, either from having run its course, or by the application of suitable remedies. When acute inflammation is subdued, it generally subsides into inflammation having a chronic character.

In the chronic form of the disease there is pain in the part, but it is less in degree, nor is it aggravated to the same extent by the motion of the joint. The local symptoms of chronic inflammation are the same as those of acute inflammation, but modified in the way which I have stated; and probably there is little or no constitutional disturbance.

It is only in a very small proportion of cases that the disease proceeds so far as to terminate in ulceration of the cartilages. Where this does happen, a new order of symptoms shows itself. The pain is of a different kind; it is more intense, and attended with involuntary startings of the limb, during which the pain is aggravated. These startings are the source of great distress at night, awaking the patient whenever he falls asleep.

The constitution now suffers in another way. There is loss of flesh and appetite, with a frequent pulse, and probably perspirations at night. In short, there are symptoms of a hectic fever. Ulceration may, as I have already explained, proceed to a great extent without suppuration being established. If the destruction of the cartilage be only

partial, the joint may retain its mobility; otherwise the disease terminates in ankylosis, the patient having a very useful limb, although the joint is stiff.

But here is another matter which demands our especial notice:—The patient very generally lies with the leg bent upon the thigh. It is better that it should not be placed in that position at first, but the patient very often gets it there before you are aware of it; and it is very difficult, when it is once in the bent position, to make it straight again. Now observe what happens; the synovial membrane and the ligaments are all distended, and must be all stretched, to a greater or less extent; and when the cartilages are ulcerated, very often the internal ligaments at one or other of their extremities become separated from the bone. The flexor muscles are constantly pulling at the head of the tibia, and by little and little they draw it backward, until at last it is removed from its proper place, the condyles of the femur projecting in front of the head of the tibia, and the latter being lodged in the ham. There is then dislocation, sometimes complete, but more frequently incomplete, the head of the tibia being still partially in contact with the articulating surface of the femur. Even so great a change as this may take place without suppuration. I have known many persons recover with this kind of dislocation of the knee, in whom abscess never shewed itself. In fact, abscess is not a very common consequence of inflammation of the synovial membrane of the knee, being for the most part limited to two orders of cases; one, in which it supervenes after a long period, during which the disease has been neglected, the patient walking about and using the limb, in spite of great suffering; the other, in which the first access of inflammation has been of more than usual intensity, the disease going on to suppuration in the first instance.

With regard to treatment in all cases of inflammation, and I may add, of other diseases of a joint, the first and most important thing is, to keep the joint in a state of perfect quietude. In an acute attack the patient suffers so much from motion that you need scarcely give him any injunctions on the subject. This, in fact, is the method that nature adopts for the purpose of informing him that the joint should not be moved. In case of chronic inflammation, also, the pain on motion is often sufficient to produce the same effect; but sometimes it is not, and then you must have recourse to some special means for keeping the joint in a state of repose. You may bind it up with a great quantity of diachylon plaster, and a roller over it, or with a starch bandage, either of which contrivances will keep the joint quiet, acting as a splint. But there are objections to both these plans, especially the latter. I will relate a case, which will best explain what I mean. In the case of a lady labouring under inflammation of the synovial membrane of the knee, I had applied some leathern splints to keep the joint quiet. This was just at the time that starch bandages came into use; she went into the country, and her surgeon there took off my splints, and applied a great quantity of these bandages. They supported the knee well enough; and when she came to London again, I said, "The starch bandage does very well; we will leave it on." Two or three evenings afterwards I was sent for; with an urgent message, entreating that I would go to the house as soon as possible. I went, and found my patient in a state of intense agony. She had had a fresh attack of inflammation of the synovial membrane. The knee was beginning to swell, but the starch bandage, binding the joint like an iron hoop, prevented the effusion of fluid from taking place. With some difficulty I took it off, which probably she would not have been able to do for herself, and unless it had been relieved I know not what might have been the consequence. You see the objection, then, to these bandages—which applies in a great degree to those of diachylon plaster also—that the patient cannot very

easily remove them himself. The best contrivance for keeping the joint quiet is splints, made of thick and stiff leather, macerated in warm water, and allowed to dry on the part. They should be pretty broad splints, one being applied to each side of the joint, nicely adjusted to it, and kept on by a bandage. These splints, when dry, become as hard as a board, but they are easy to be worn, because they exactly fit. A row of artificial teeth is made of the hardest material—of ivory or gold; yet it is easy to be borne because it exactly fits. Make equal pressure everywhere; and these splints cannot fail to fit the parts to which they are applied, as they are moulded upon them in the first instance. They give a more complete support than can be obtained in any other way; and they have this advantage, that if the joint should swell, or the splints be uncomfortable, the patient can easily re-adjust them for himself, making that degree of pressure which is agreeable to his own feelings.

In a more advanced stage of the disease, when the cure is nearly completed, and it is your object to limit the motions of the joint—not because there are any serious symptoms at the time, but lest there should be a recurrence of the inflammation—a bandage, made by Schoolbred, in Jermyn-street, may be applied with advantage. It is composed of spiral wire, enclosed between two pieces of leather, with a stiff piece of leather, of moderate thickness, behind, and laced on one side. The leather behind makes a very excellent splint, and the bandage being elastic, if the knee should swell a little, it does not matter; besides which, the patient may draw the lace as tight or as loose as he pleases. In many cases, after inflammation of the synovial membrane has subsided, and when the patient first begins to get about, it is advisable to let him be provided with one of these bandages. At the same time the heel of the shoe should be a little raised, so as to keep the knee slightly bent: this being much more convenient to the patient than the absolutely straight position.

In cases of acute inflammation it may be necessary to bleed from the arm, to apply leeches, or to take blood by cupping not from over the joint itself, but from the neighbourhood: for the pressure of the cupping-glasses will bruise the joint and do harm, and blood taken in the neighbourhood gives as much relief as if it were taken more immediately from the part affected. With respect to the extent to which blood-letting should be had recourse to, it is impossible to lay down any general rule; but I may mention that at this day we do not for the most part find occasion to abstract blood so freely as was done in former times, because we have other means of subduing inflammation; of which I shall speak presently. When the violence of the inflammation has subsided, the patient may derive benefit from the application of blisters. The first blister may be applied not on the knee, but on the thigh above the knee, and afterwards on the joint itself. Blisters do harm when there is any very active inflammation going on, but they do great service afterwards; and they operate advantageously in two ways. First, by exciting inflammation in the skin, they draw away the blood from the synovial membrane, and lessen the inflammation there; and secondly, by causing a great secretion of serum from the skin, they in some way or another, cause the absorption of the fluid from the joint, and the fluid being absorbed, the tension of the synovial membrane which tends to keep up the inflammation is relieved.

I said that we had other means of subduing inflammation besides blood-letting. Of course purging and diaphoretic medicines are useful in cases of inflammation wherever situated, but I meant to allude especially to what may be called specific remedies; namely, mercury and colchicum. A gouty person sends for you with acute inflammation of the knee, the urine depositing a red sediment. You find that he has lived freely, taken but little exercise, that acid is genera-

ted in the stomach, that he has been for some time flatulent, and his bowels costive. Having taken care that he is in the first instance freely purged, you may give him 15 minims of the vinum colchici in a saline draught 2 or 3 times a day. Never give more than that, for large doses of colchicum are dangerous, and small ones accomplish all that is required. Even the latter should not be taken for more than two or three days at a time. Where inflammation of the synovial membrane depends on a gouty diathesis, the effects of colchicum are sometimes marvellous. I have known patients suffering extreme agony to be completely relieved by it in a few hours. But let me repeat, for this is of importance, that you should not venture on the exhibition of colchicum in this or other cases, without previously administering purgatives, and they should also be given occasionally while it is being used. Small doses of mercury also, the blue pill for example, may be given at the same time. The tendency of colchicum is to produce white evacuations, which indicate, I suppose, a diminished secretion of bile. Of course it is not right that bile should not be secreted and evacuated, and the combination of mercury with the purgatives, at the same time that you exhibit the colchicum, prevents the injurious effects that might otherwise arise from the biliary secretion. Mercury may be administered with advantage in another way; that is, not as a purgative, not merely with a view to act on the secretion of the liver, but in larger or more frequent doses, so as to produce its specific effects on the general system. Such mercurial treatment may be often had recourse to with advantage in cases of gouty inflammation, but still more in cases of what may be properly called rheumatic inflammation. The combination of calomel with opium is a very convenient method of giving it in these cases, as it is in those of iritis. Useful as is the mercurial treatment during the active inflammatory state of the disease, it is still more useful at a later period, accomplishing that which can scarcely be accomplished by other means; as I shall explain presently.

There is no essential difference between the treatment of chronic and acute inflammation of the synovial membrane, except that in the former such active measures are not required as in the latter. Leeches may be necessary, but blood-letting from the arm is never requisite. Blisters are very useful here, and may frequently be applied without having recourse to leeches. You may employ either a succession of blisters, or one blister kept open for some time with savine cerate. In cases of gouty inflammation of the synovial membrane having a chronic character, colchicum may be exhibited as an alternative—one or two grains of acetous extract, with as much blue-pill, every night, and aperient medicine every third or fourth morning; or you may give the acetous extract, with calomel and the compound extract of colocynth, every second or third night: watching the effect of the remedies, and continuing their use for a longer or shorter time, according to circumstances. In such cases a course of the iodide of potassium in small doses, combined with alkaline remedies, may also be productive of benefit. In slighter cases of the disease, liniments that stimulate the skin, but which fall short of a blister, may be usefully employed. The volatile liniment, with oil of turpentine added to it, or the compound camphor liniment, may be rubbed on two or three times daily. The following makes an excellent liniment:—Take an ounce and a half of olive-oil and a drachm of sulphuric acid; when these are well mixed together, add half an ounce of oil of turpentine. This makes a black liniment, which may be rubbed on with a bit of lint twice daily until the skin becomes inflamed and tender. It will produce a good deal of inflammation in the skin, but not a blister. Another convenient method of stimulating the skin is to paint the knee by means of a camel's hair brush with a solution of a drachm of iodine in an ounce of alcohol.

This may be omitted when the skin is tender, then applied again, and so on.

I said that mercury was useful in another and more advanced stage of the disease, when the altered character of the pain, attended with starting of the limb at night, indicates that ulceration is going on in the cartilages. Here the only remedy is mercury, and the effect of it is remarkable. Make the gums sore, and the patient, who was suffering tortures, will, in a few days, be quite relieved. If it be administered at a sufficiently early period, it will save the mobility of the joint; if it be exhibited at a later period, it will save the limb, but will not prevent ankylosis. Mercury should be given here in the same manner as in cases of iritis, or chronic inflammation of the testicle. Calomel and opium may be administered two or three times a day till the gums are sore, mere alternative doses being insufficient. It is, however, seldom necessary to continue the exhibition of mercury for any very lengthened period. I think that one of the greatest improvements of modern surgery is the exhibition of mercury in these and some other cases of ulceration of the articular cartilage. I do not know any other remedy that will answer the same purpose.

### OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. W. KING, F.R.C.S.E.—Lecturer on Pathology at Guy's Hospital.

Some observation and reading have brought me to an indifferent estimation of the existing theories, and even practices, as to securing arteries. I deem it safe to speak of discrepancies, deficiencies, and serious errors, and I shall not hesitate gradually to unfold a set of remarks which, if true, must eventually modify the general view of the matters in question. I find a good deal to complain of in experimenters, and most of all in writers; but it will be my single object to set down such facts and reasonings as may appear needful and just. It may be, in the main, needless to discuss the doubtful and erroneous opinions which some hold, and it is not imperative rashly to advance to any general conclusion.

In reviewing the course of my examination of the present subject during the past year or two, the following opinions present themselves; and I venture to set them down to explain my ultimate object, and to shew that if I am in error, it has been a somewhat complicated temptation which has misled me.

If I am not mistaken, we have—

1. Actually a succession of writers overlooking the better points of their predecessors.
2. Experimental data, partial or erroneous, or admitting of very different and better explanations than have been anticipated, and even of the most important additional deductions.
3. Great physiological principles, apparently correcting the prevailing opinions.
4. New and essential demonstrations from pathology, which compel us to remodel our views.
5. There are broad general facts in surgery, which seem to lead inevitably to a revision of present principles.
6. Finally, all these several considerations, pointing in one sufficiently direct course, form, to my mind, an argument cumulative, which it will be difficult to set aside.

#### SECT. 1.—A General View of Facts relative to Bleeding after Ligature of Arteries\*.

\*The following paper was read before the Physical Society of Guy's Hospital, by Mr. G. H. King. Mr. King had collected numerous facts on the subject at my request, and I still hope to make good use of his labours. But for the initiative thought, and my friend's diffidence, his name ought to have taken the place of mine at the head of this chapter, which, however, has gradually expanded.

*There is a critical day for the discharge of ligatures, before which fatal bleedings arise, and after which, the thread comes off safely. Late hæmorrhages are comparatively safe, and tardy ligatures harmless.—Dr. Norris's Statistics of the Subclavian.*

A healthy coachmaker, in the country, had popliteal aneurism. The femoral artery was tied, and hæmorrhages followed. The iliac was tied with the like result; and I think I should state that it was a third ligature which induced the fatal bleeding.

The event here sketched, occurred some years ago, and is by no means unique. The reader will feel that such a case, for a first experience as to the tying of arteries, is not a little impressive. The fact is, perhaps like too many others, in having hitherto remained unpublished.

Mr. B. Phillips (Med. Gaz. 15, 870) states, that of 171 ligatures of arterial trunks, between the years 1824-34, one in three was fatal, and that one-seventh of the successful cases had some secondary hæmorrhage.—It appears that the recorded successful ligatures of the iliacs were 74 per cent.

Femoral,	74 per cent.
Humoral,	73 “
Carotid,	66½ “
Subclavian,	49 “

Humoral and femoral by the old plans, 75 “

(To be Continued.)

## MIDWIFERY.

### DISEASES OF CHILDREN.

#### M. GUERSANT ON THE INFLUENCE OF RACHITIS ON FRACTURES IN CHILDREN.

From statistical researches founded on a medium of eighty cases of fracture, yearly, we have remarked, that about a third of the fractures which we observe, occur in rachitic children. The circumstances which predispose them to fractures are two-fold; the anatomical structure of the rachitic bones, and the great weakness of rachitic children, which exposes them to frequent falls. The structure of rachitic bones varies according to the period of the disease. In the first period, the spongy tissue is gorged with blood, more especially in the extremities of the long bones. In the second stage, the vascular system is still more developed, the compact tissue softens, the medullary canal becomes larger, and the bones bend in various directions. In the third period, the disease remains stationary, and then improves, the cellular structure becoming less vascular, and the bones regaining a certain degree of hardness. The predominant feature in these various states is extreme fragility of the bones. This fragility, however, is fortunately compensated by the thickness of the periosteum in children generally, and more especially in rachitic children.

The symptoms of fracture in rachitic children are very different from those which are met with under other circumstances. There is no crepitation, owing to the softness of the bones; often no deformity, on account of the periosteal covering; and when deformity exists, there is no means of distinguishing it from the curvatures that are so frequent in rachitic children. These are the only symptoms which enable us to recognise the fracture:—1st. Abnormal mobility of the bones modified by the resistance of the periosteum; 2nd. Flexibility of the limb at the seat of the fracture. If the existence of a fracture is not recognised, or if a lengthened period elapses before the surgeon is called in, the periosteum may be ruptured, and then the signs of fracture become more apparent. There is then deformity,

riding of the fragments, and even crepitation, when the general rachitic affection is not too advanced.

The symptoms of fracture persist a long while after the accident, even when it is treated properly. Fifteen days afterwards, the fragments are generally still found moveable, whereas, in a healthy child at that time, consolidation has always taken place. Consolidation is thus always tardy, and the more so the more severe the general disease. In addition to the direct unfavourable influence of rickets, there are other morbid influences to which the patients are often exposed. Thus, they are frequently attacked with pneumonia, bronchial catarrh, and eruptive fevers, to which ricketty children are extremely predisposed, these diseases always lengthening the treatment of the fracture.

M. Guersant reduces the treatment of these fractures to the mere application of a roller-bandage applied to the limb, and three or four small splints placed at the seat of the fracture, the whole being again kept in place by another circular bandage. The splints must not be allowed to rest on the osseous protuberances, lest excoriations should follow; this is the more important, as the extremities of the long bones are morbidly swollen. The entire apparatus must be surrounded with a piece of oil-skin, if it is one of the inferior limbs that is fractured, owing to the circumstances of very young children often wetting their bed. M. Guersant does not approve of any other forms of apparatus, all kinds of padding or cushions being soon destroyed, and the starch bandage being soon softened, by the contract of the urine.

The general treatment ought to consist principally, as in simple rachitis, in a good and tonic alimentation. Some writers have latterly asserted that a substantial diet is not beneficial in rachitis; but this is an error, which may be explained by the circumstance of substantial food being sometimes given too suddenly to children who have previously been living on very low diet. The change should be gradual, so as to allow the stomach to become accustomed to the difference in the food.—*Clinique des Hôpitaux des Enfants.*

#### CAUTIONS WITH REGARD TO THE PREMONITORY SIGNS OF PUERPERAL CONVULSIONS.

By Dr. MEIGS and M. COLOMBAT.

Let the physician be aware of the danger of headache in women in advanced stages of gestation. A severe headache, and especially one accompanied with a sense of weight on the crown, or a severe pain that can be covered with the thumb, is but one step removed from eclampsia. Such a person ought to be bled freely from the arm, if it be possible to do so without flying in the very face of powerful counter-indications. I have not spared the lancet in many such cases; but I may confidently assert, that where I have done so, I have had cause most bitterly to regret it. A severe headache in a woman advanced in pregnancy should be taken as a sign that she ought to be let blood—almost, I was about to add, without inquiring of the pulse. M.

For those cases of insomnia that are coincident with a plethoric habit of body, we should direct a venesection, which is, under such circumstances, the first and best of sedatives. C. [Not merely to cure the vigil, but, what is far more important, to ward off the attack of convulsion or apoplexy, which should be held as threatened, and even as an imminent danger, for persons in whom the insomnia has arisen to a considerable height.] M.

If a woman in labour should say, Sir, I cannot see you, the room has been darkened; or should she say, I see every object doubled, or only half of any object, I esteem it far more prudent to look upon the complaint as one exigent of immediate treatment, than to say, along with M. Colombat,

that it arises from sympathy with the womb, and pass it slightly by. A woman in labour said to me, "Doctor, what is the matter, sir? I cannot see you." "Give me a hand-axe and basin," said I to the nurse; "quick, quick!" but before I could tie up the arm, she was in eclampsia. M.

## CHEMISTRY, MATERIA MEDICA AND PHARMACY.

### FERRUGINEOUS PILL OF MERCURY.

The following formula for preparing the above is recommended by Professor McLean in the Illinois Medical Journal, of June 1845.

Mercury, 1 oz.; Confection of Roses,  $1\frac{1}{2}$  oz.; Sesquioxide of Iron,  $\frac{1}{2}$  oz.; Liquorice Root in powder,  $\frac{1}{2}$  oz.

Mix the iron and the confection of roses, then add the mercury, and rub till the globules disappear; lastly, add the liquorice, and thoroughly incorporate the whole into a mass.

The object of this preparation is to obtain the united effects of the iron and mercury where both are indicated, to serve as a substitute for the blue pill alone when required, and to possess a mixture of certain and uniform strength, and consequently uniform in its operation; while the addition of the iron renders the reduction of the mercury an easy matter, requiring but five or ten minutes trituration for that object. Country practitioners may accordingly find this formula occasionally of essential service to them.

### TO PRESERVE COLCHICUM CORMS.

Dr. Houlton suggests, in the Pharmaceutic Journal, that the corms should be dried without slicing. They should be stripped of their loose coats, the little bud (embryo) carefully picked out, and then be permitted to dry. Thus prepared, the corms will maintain unimpaired, their medical properties, if kept dry, which it is well known they frequently lose when sliced.

### ANALYSIS OF COD LIVER OIL.

This animal oil which has, within a few years past, acquired considerable reputation in the treatment of several diseases, has been analysed by Mr. Tough. There are three varieties of it, the white, brown, and black. The first separates spontaneously from the second by rest, while the third or black kind, is extracted from the livers by boiling in water, after the white and brown have been removed.

The chief active principles which these oils contain, are iodine, chlorine and bromine, with phosphoric and sulphuric acid, and bases of lime, magnesia and soda. The iodine exists in largest proportion in the brown, being 0.406 p. cent.; the white and black contain it in the proportions respectively of .03 and .02.; the brown contains the chlorine with a trace of bromine and in greatest abundance, the quantity being as much as 9.15. The white contains 1.04 p. cent., and the black 0.08. The animal proximate principles abound most in the black and white varieties, the inorganic principles in the brown.

### MODE OF DETECTING THE ADULTERATION OF VINEGAR WITH SULPHURIC ACID.

Fecula or starch is recommended as the best and most simple test for the discovery of this cheat. It is well known "that dilute sulphuric acid, by aid of heat, converts fecula first into dextrine, and if the heat be continued, into *glucose* or grape sugar. It then loses the property of turning blue when treated with iodine. In the first case this reagent colours it of a vinous violet, in the second there is no colouration at all. A specimen of pure vinegar, and another of the suspected fluid being taken, to each a small portion of fecula is to be added, and heat applied for about ten minutes. On then testing "these two liquors separately by tincture of iodine, in pure vinegar the colouration is blue as usual, and in the other it presents a violet tint, which approaches vinous red. If the ebullition of the vinegar be continued, and if the testing be repeated with a small quantity, the colouration seems to become more and more vinous, whilst that of pure vinegar always remains the same. Finally after 20 or 30 minutes boiling, the adulterated vinegar is no longer coloured by iodine.—*Chemist.*

## British American Journal.

MONTREAL, MAY 1, 1846.

### TO OUR SUBSCRIBERS.

The revolution of a year has given to the readers of the British American Journal, a specimen of the utility of such a work, as its Editors contemplated; and it has left us in possession of the additional experience that may enable us to render it for the future more deserving still of public approbation. It was scarcely to have been expected, that a periodical of this nature, furnishing no food to amuse, and separated from the party politics in which the great body of the community find for the most part a special gratification, should be sustained with that interest, with which the organs of party passions are made to float so prosperously. The nature of its objects precludes it from this advantage. Addressed to the communication of knowledge, in the several departments of Medical and Physical Science, its success was seen from the beginning, to be dependant upon the good-will and favourable consideration of those, whose profession and taste inclined them to such pursuits; and it is pleasing to think, that in a thinly settled population, there are so many to whom these pursuits appear valuable, as to have afforded such a fair proportion of subscribers, as to guarantee its existence and prosperity. We beg leave earnestly to solicit still their patronage, and what is of equal importance to us, their best endeavours to sustain it, by extending, as may seem best to them, its circulation.



The interests of the Medical Profession require, in a special manner, to be regarded and maintained. In the present conjuncture they may be sacrificed beyond hope, by the lending of legislative sanction, to measures that may affect its best interests. By demonstrating the mischievous consequences of inconsiderate and ill-judged legislation on a subject which requires to be managed with the full knowledge that the working of Medical Institutions in other countries might supply, an incalculable service may be done to the Profession; and this Journal supplies at least a medium, through which the experience of medical men may be conveyed; and let us add, a medium which will not be overlooked, if the Profession be faithful to its own honour and interests.

In regard to the department of Physical Science, we are inclined still to be more urgent for the supply of interesting matter. The leisure essential for the prosecution of Natural History may not generally be great; but the field which, in this widely extended Province is open to the naturalist, is a temptation to him by which we trust we shall still further profit. This department of our Journal has not been sustained by contributions so extensively as we imagined it would have been; but we trust that when it is now found that a medium of communication is furnished to the naturalist, in his own country, or it may be, the country of his adoption, it will be more generally taken advantage of. To the contributors to this department of the Journal, as well as to the Medical, in the volume which has closed, we return our warmest acknowledgments for their support, a support which we venture to hope has not been misplaced, and of which we would respectfully solicit a continuance.

The year has closed, exhibiting a small balance due the publisher; to meet which there are subscriptions due the Journal of more than double the amount. Those who have not already paid their subscriptions for the past year, are requested to do so at once. We feel persuaded that the Members of the Profession will agree in this opinion, that the Editorial responsibility connected with a Journal of this nature is sufficiently severe, without having superadded to it any of a pecuniary kind.

#### THE MEDICAL BILL, AND THE SCHOOL OF MEDICINE OF MONTREAL.

In the progress of the Medical Bill, which is now before the Legislative Assembly, a question has arisen which deeply affects the best interests of the profession of this Province. One would have imagined, that to secure an object of such paramount importance as the entailment of a proper system of medical education on

young men desirous of practising as physicians and surgeons, an object which reflects most immediately on the dearest and best interests of the community at large—to regulate the practice of medicine in its various branches, to protect the licensed practitioner, and to punish the ignorant pretender, that all parties would have striven harmoniously together, that no divellent or discordant principles would have arisen to mar or to endanger a measure of such vast utility. We regret to observe that the reverse is the case, and that unless a sufficiency of conservatism be found in the House, that species of conservatism which, recognising with careful and prudent forethought the true interests of an enlightened profession, would shrink from sacrificing them to what might be deemed a present expediency, regardless of remote consequences, or to satiate the overweening ambition of a few on a flimsy plea of fancied injustice, unless the demand be acceded to, such a result, we fear, will be inevitable. We say deliberately, the ambition of a few, for there can be no doubt that the passage of the Bill materially depends upon a concession to the pretensions which the school of medicine of this city is making, to have their certificates or diplomas recognised as *ad practicandum* licenses, thus adding to the already too great number of licensing boards for the Province. We regard the question at issue as a most important one, one too serious to be passed lightly by, one demanding the deepest and most serious consideration of the profession generally, and, as far as the Legislature is concerned, not to be dismissed without calm deliberation.

It has been most industriously and insidiously attempted to convert the question into one of McGill College, *versus* the School of Medicine; to assign the opposition to the pretensions of the School of Medicine taken by some members of the former, to a persecution of the latter, on the plea of a fear of rivalry. However desirous the School of Medicine may be thus to confine and narrow down the motives to the opposition which they encounter, (and it is their interest to have it so believed) we beg to assure them that such an incentive to the opposition exists but in their own imagination; we deny most explicitly and most emphatically any direct interest which either of the Universities of McGill College or King's College may have in the matter. It is a question which does not affect either of them in the slightest degree. The concession of the privilege, which is desired by the School of Medicine, will not be the means of withdrawing one graduate from the halls of either, for so long as a graduate holds a grade above that of the possessor of a mere diploma, so long as degrees are considered honours, and their value estimated by the



difficulty of obtaining them, so long will the halls of the Universities be frequented, and the confidence of the public be unhesitatingly reposed in them. This, we maintain, is not the light in which the question is to be viewed, much as the opponents of the Bill, viz., the School of Medicine and its supporters, would desire it. It must be placed on broader grounds; it must be viewed through no distorting medium of prejudice, or passion, or interest; and if we can make it appear that the interests of the profession generally, are the interests which would be really affected by the concession of the power which the School of Medicine is demanding, it will then follow, that the School of Medicine is pursuing a course of policy which is hostile to the best interests of that profession from which it claims its support, and that the dignity and reputation of the profession must be sustained, although the School of Medicine be made to totter, or even to crumble into dust. This Journal has advocated no line of party politics. Undertaken for the benefit of the profession, and liberally and generously sustained by it, it will be ever found to advocate the general good of that profession. In the question before us, we see the best interests of that profession menaced, and we would be wanting in our duty did we not solemnly protest against the pretensions of the School of Medicine; and in laying these, our views, open to the profession generally, we call upon that profession to support us in them, fully persuaded, that a large, a very large, majority of the British practitioners of Canada, who desire to see their profession placed on some more elevated and stable position than it now occupies, will fully sustain us.

The cause of the opposition, manifested by the School of Medicine and its supporters to the bill, will be met with in the following extract from the third clause, and in that portion of it which we have italicized:—

“And be it enacted, That from and after the passing of this Act, no person shall receive a license to practice Medicine, Surgery, or Midwifery for gain or profit within this Province, who shall not have obtained a Certificate from some Medical Board to be appointed and nominated as hereinafter mentioned, which shall be founded on the production of a Diploma or Degree from some University, College, or *School of Medicine incorporated by Royal Charter, &c.*”

Now, as the School of Medicine is not incorporated by Royal Charter, but by an act of the Provincial Parliament, it is clear that their Certificates or Diplomas, would not entitle the holder to a license on their mere presentation to the Medical Boards, or would not possess the *ad practicandum* character. This power the School of Medicine sought to obtain at the last session of the Legislature, but it was denied them, and very wisely too. The *direct* application for the power refused, it is

now sought to be obtained in an *indirect* manner, viz, by substituting for the italicized portion of the extract above given, the words “incorporated School of Medicine,” thus endeavouring to secure in the Medical bill, that privilege which is *expressly denied* them in their own act of incorporation;\* and by the opposition to the bill thus manifested, and on these grounds, endangering its passage through the two branches of the Legislature, unless by the alteration attempted, it is rendered pliable and subservient to their own interests. We are well aware that the act of incorporation, under which the School of Medicine is constituted, does not authorize that body to grant a Diploma. It authorizes them, however, to grant a Certificate, which is to be “one of attendance” merely, and, therefore, totally unfitted and valueless before the Medical Boards, for it is neither analogous to the “Diploma” of the Colleges of Surgeons of Great Britain, nor to the “Certificates of qualification” of the Societies of Apothecaries. Still, this *legal impediment to their reception* would be obviated by the substitution, or the addition of the word Diploma, for the authority which would confer an *ad practicandum* character on the Diploma of the incorporated School of Medicine, would readily acquiesce in any alteration in their act of incorporation, likely to facilitate and secure that object. We regard the objection taken to the bill by the School of Medicine and its supporters, as the first step in the drama which is afterwards to be played, and which is to be resisted now, if to be resisted at all with any regard to ulterior good.

If then, to the Diplomas or Certificates of the School of Medicine, the *ad practicandum* character be allowed it is obvious, that it becomes an independent licensing board: we say independent, for the license, as a matter of direct consequence, succeeds the mere presentation of the Diploma or Certificate to the board.

And it then becomes a question whether the prerogative thus accorded be beneficial or injurious to the best interests of the Profession of the Province, which is the point upon which issue is joined? or whether those interests are likely to be promoted or enhanced, by augmenting the number of licensing boards, which are already too numerous in proportion to the population, and the actual demand for them.

We lay it down in the first place, as an axiom, that

\* And be it enacted, That on the presentation by any pupil of the said Medical School, of his *certificate of attendance*, from the said corporation, to the body or persons appointed to examine applicants for Licenses to practise Physic, Surgery, Midwifery, or Pharmacy, they shall examine the said Certificate, and having done so, and having ascertained in what capacity or department the applicant is therein certified as having attended such lectures, and having duly examined him, shall themselves certify accordingly to the Governor of this Province, a License to practice may accordingly be issued to such applicant in the usual manner and on payment of the usual fees.” 8 Vict., cap. 31, sect. 6.

the more general and substantial the preliminary acquirements of a candidate be, the more solid the professional education which he receives is rendered, the greater the impediments thrown in the way of acquiring degrees or diplomas, the more stable, elevated, and enlightened will become the general character of the profession of which he is to become a member. This we lay down as an axiom, upon which every step of legislation for medical education should be based, and which should be steadily kept in view. If young men are admitted to the study of medicine with improperly trained and educated minds, rendering them incapable of receiving, or profiting by, scientific truths, and if easy access be afforded to the acquisition of degrees or diplomas, the character of the profession will surely deteriorate. That the latter will become an inevitable and certain consequence of a multiplicity of interested licensing boards to a very limited population, and that the former is an equally legitimate consequence of an opposite state of affairs, facts based on the medical history of nations will abundantly testify; and for this purpose let us examine the ratio which colleges and universities possessing the power of conferring degrees or diplomas bear to the population; and also the relative ratio of their licensing boards.

In Great Britain, there are 18 corporate bodies granting Degrees, Diplomas, or Certificates. This number includes the power exercised by the Archbishop of Canterbury.

In Germany, there is at least one in each kingdom, duchy, and principality, &c., of which there are 38 forming the confederation.

In France there are 21.

In Norway there is but one.

In the United States there are 31.

In this country there are two, King's College, and McGill College; to which we may add, for the purposes of this statistical table, the schools of medicine, in this city and Quebec, to both of which the Legislature at its last session conceded the power of granting "Certificates." The following table will then exhibit the ratio which such institutions bear to the populations of the respective countries.

Country.	Year of Census.	Population.	No. of Universities, Colleges, &c.	Ratio to Population.
Great Britain & Ireland	1841	26,835,773	18	1a1,490,876
Germanic Confederation	..	39,426,754*	38	1a1,037,546
France	..	34,136,677*	21	1a1,625,556
Norway	..	1,500,000†	1	1a1,500,000
United States	1840	17,063,353	31	1a 550,450
Canada { Canada East.. 1844		693,649 }	4	1a 299,926
Canada { Canada West.. 1842		506,055 }		

\* Edinburgh Almanac, 1843. † According to the Statistical Journal of July 1839, Norway, in 1835, possessed a population, by census, of 1,191,827 souls. The population may be now safely estimated at one and a half million.

From this table, however, which we have now given, we only desire to exhibit the strange anomaly, with reference to other countries which Canada now presents in the number of institutions granting Degrees and Certificates to the population; for it is perfectly clear that, under such circumstances, no one school can flourish with a limited population furnishing but a limited number of students.

More immediately connected with the character of the profession is the number of licensing boards in the different countries, or institutions granting Degrees or Diplomas, which are *ad practicandum* licenses. So long as these licensing boards are not under the controul of personal interest, it is in reality a matter of little moment, how many there may be; but when circumstances arise, which will give them a direct pecuniary interest in passing through their hands as many licences as possible, the interests of the profession become then endangered, and its character jeopardized; and to obviate a consequence of this nature, they should be as limited in number as possible, or what would be preferable, if practicable, that all such boards should be abolished.

Dependant upon this view, as best subserving the interests of the profession, is the proposal contained in Sir James Graham's Medical Bill for Great Britain and Ireland, to reduce the number of licensing boards to 3, abstracting that power from the various bodies which now exercise it. One certain effect of this course will be the amelioration of the character of the profession by the enforcement of uniformity in the course of education, and making merit alone the standard of the qualification for license to practice.

Great Britain possesses 18 Corporations possessing the power of granting degrees, licenses or letters testimonial of some kind or other. From this list we may exclude the power held by the Archbishop of Canterbury, a power which is now seldom, we may with perfect propriety, say never exercised.

Of the 21 Universities, Academies, and Royal Colleges of France, granting Degrees, but two only grant *ad practicandum* licenses, viz., the University of Paris, and that of Montpellier.

In Norway, there is only one University, the Degree of which only is the Certificate of license, viz., the University of Christiana.

In the Germanic Confederation, there are 38, one in each state of the confederation, and which are independent of the Universities. The Degrees of the Universities do not possess the *ad practicandum* character.

In the United States there are 31 Universities, the degrees of all which are *ad practicandum* licenses.

In Canada, there are now two Universities, the de-

grees of which are *ad practicum* licenses, and three Medical Boards, one at Toronto, Quebec, and Montreal.

	Population.	Licensing Bodies.	Ratio to Population.
Great Britain, .....	26,835,773	17	1 a 1,578,339
Germanic Confederation, .....	39,426,754	38	1 a 1,037,546
France, .....	34,136,677	2	1 a 17,068,338
Norway, .....	1,500,000	1	1 a 1,500,000
United States, .....	17,063,353	31	1 a 550,430
Canada, .....	1,199,704	5	1 a 239,940

Before attempting to draw any inferences from this table, it is right first to premise, that we ought to expunge from it, all references to the Germanic confederation, and with propriety, three out of the five licensing boards for this country; for these bodies being constituted without reference to the Universities, cannot be supposed to be influenced by any of the motives which would induce them to pass improperly prepared candidates for license. It is the freedom from bias of this nature, which has maintained the character of the German profession at its present high standing. None are permitted to practise in that country who have not passed the state examination. What the character of that profession would have been had the degrees of the numerous Universities possessed the *ad practicum* character, may be estimated from the following short extract from a speech by Dr. Malgaigne, at the Medical Convention held last year at Paris:—

“Shall I speak of some German Universities, of that of Giessen for instance, whose commercial agent, Mr. Bond, advertised for months in the Medical and Political papers, the £50 Degrees? Shall I say that the faculty of Wurtzburg has ceased to exist in consequence of the same abuses? Is it necessary to add, that the Marbourg forwards its Diplomas by post or by waggon, to whosoever asks for them, even to women? And we all have seen Madame Boivin, who had never put her foot within the gates of Marbourg, displaying the Diploma of M. D., purchased from that University, &c.”

But with reference to the influence exerted on the profession, by Universities and Colleges granting *ad practicum* Degrees and Diplomas, let us look for a moment at the state of the profession in France, and England, and the United States, and we will find, that in strict accordance with the limited number of such institutions, rises proportionately the character of the profession. The character of the profession in Great Britain, is confessedly lower than that in France; and that this effect is clearly interwoven with the number of corporations granting licenses, may be clearly gleaned from Sir James Graham's proposal, viz. the institution of three examining

boards for the three Kingdoms, whose members uninfluenced by any feeling arising from connection with local Universities or Colleges, can have no interest in either rejecting or licensing candidates. But what shall we say of the United States, where the free trade principle, in medical teaching, has run riot; where the cry of “no monopoly” has ever been the order of the day, where Universities granting *ad practicum* degrees have sprung up, and are daily springing up like mushrooms. What, we ask, has been the effect on the profession there? To this question Dr. Stewart's address, in the review department of this Journal, will furnish an abundant answer. Are we asked whether similar consequences would follow here, if the Montreal School of Medicine obtained the power of granting *ad practicum* diplomas? The question is a delicate one, but we will meet it. We would not say that similar abuses, and similar consequences to the character of the profession, would positively follow the delegation of the power sought for, but *who could say that they would not*. It is not too much to state, that we are men of like passions, sentiments, and feelings, with those of the United States, and that by similar actuating causes, we would not be dissimilarly influenced.

But it is alleged, that if the power of granting an *ad practicum* Diploma be not accorded to the School of Medicine, a manifest act of injustice would be committed against that institution; that they are equally entitled to that privilege with the Universities; that they labour in their course of instruction with great assiduity, and are equally competent to turn out, with the Universities, young men of equal professional attainments. Now in this argument there is a great deal of plausibility, but nothing sound or substantial. Concede the privilege, and we ask how long will all this continue. The various Universities in the United States began their careers under an equally plausible regard for the public benefit and good. The privileges which they possessed have been avowedly greatly abused, and by consequence, the profession in that country has been degraded in its character. Now the act of injustice which would be committed, would be not against the School of Medicine, but against the profession, whose best interests would be most seriously endangered, and those interests demand that no such concession be made.

Besides, admitting for a moment that the pretensions of the School of Medicine are confirmed, that by an act of the Legislature they are erected into an independent licensing board, it will be impossible then to refuse a similar boon to any other similarly incorporated school of medicine, which does, or may hereafter, exist; and these may be found to exist, and to multiply in exact accordance with the ambition of any six or seven

practitioners residing in any one single place. Would not a most manifest act of injustice be committed against any one or all of these if the privilege accorded to the School of Medicine of this city be denied to them?

There is also another great objection to be urged against granting the privilege demanded by the School of Medicine, viz., that they do not possess any governing body, and are not responsible for their acts to any superior tribunal; they are, in fact, self-elected and irresponsible, and their acts completely independent. Now, there is not, in the whole catalogue of licensing bodies in Great Britain and Ireland, or on the Continent of Europe or America, one institution possessing this privilege, whose acts are not controlled by a higher body, in the shape of a Council, Board, Senatus, Company (as in the case of the two companies of apothecaries of London and Dublin) Governors, Visitors or Chancellors; and yet in England abuses of this privilege have increased to such an extent as to require an act of the Legislature to withdraw those powers from them, and vest them in a more limited and unbiassed number. If, then, such evils have arisen where apparently every precaution was taken to prevent them, how much more likely are they to arise when the teachers, who are likewise the examiners, are completely independent of any controlling body, and have a direct interest in licensing as many as they possibly can.

But the pretensions of the School of Medicine, we now affirm, are without a parallel in the history of medicine. Not satisfied with an act of incorporation, which places them on a parallel with Queen's College, Birmingham,\* as far as Provincial acts may be paralleled with Imperial ones, and far above any of the justly celebrated Provincial or Metropolitan schools of the mother country, without a tithe of their facilities for instruction, their ambition leads them onwards, and they desire nothing else than to be endowed with powers of a character analogous to those of the Universities. Ambition is laudable when, in its attainment, good may be effected; it is highly reprehensible when evils of magnitude are to follow in its train. The last will inevitably be the result if the ambition of the school be gratified. The poet tells us of a state in which

\* \* \* The ancestors of nature hold  
Eternal anarchy, amidst the noise  
Of endless wars, and by confusion stand.

Not dissimilar in its consequences will be the concession of the privilege demanded.

\* Queen's College, Birmingham, is incorporated by Royal Charter, but possesses no other privilege. The "certificate" which it grants is one of "honour," and is given annually to the most proficient student.

In thus exposing the dangers to the best interests of the profession, which will certainly follow the concession of the power demanded by the School of Medicine, our observations have been dictated by no special feelings of hostility to that body. As long as they did well we let them alone; indeed, we have not breathed their name in previous pages of this Journal; and this silence would have been still further prolonged until some cause for praise was found, or reason for censure, as in the present case; but it could scarcely be expected that our silence would be longer maintained, when they are endeavouring to sacrifice what we certainly consider the best and truest interests of the profession on the altar of their own selfish and paltry ambition.

### • THE MEDICAL BILL.

On Thursday evening, April 23, the second reading of the Bill came on in the Legislative Assembly. After a few remarks, it was referred to a select committee, consisting of the Honourable the Attorney General, and Drs. Foster, Jessup, Bouthillier, and Taché.

ELLIS'S MEDICAL FORMULARY—CORRECTION.—The Publishers of this Work respectfully request those persons who have the seventh edition, to correct a typographical error for the "MEDICATED HYDROCYANATE OF POTASSIUM," at page 83; wherein the symbol for an ounce is used in place of that for a drachm. The following is the correct prescription, and corresponds with the proportions directed in all the previous editions of the Work:

R. Potassii hydrocyanici medicati, ʒj.  
Aque destillatæ, Oj.  
Sacchari purificati, ʒiiss.

Fiat solutio.—Dose, a table-spoonful night and morning.

We have received the foregoing from Messrs. Lea and Blanchard, and gladly comply with their request to announce the error, as it is a most important one. The error has already been productive of one lamentable result. In the *St. Louis Medical and Surgical Journal*, lately received, we find recorded the sudden death of a Dr. Baber, of Macon, from a dose of the medicine prepared according to the erroneous formula in the work. We have not received the work, and would like to see it. Why do the publishers in the United States not forward us new works for review?

### Pectoral de Cerise or Compound Cherry Pectoral.

—This compound comes from the laboratory of Mr. Ayer, a druggist at Lowell; and having been made acquainted with the nature of the pharmacæutic agents, which enter into its composition, we regard it as likely to subserve in an efficient manner some important indications in which a sedative effect, conjoined with a freer expectoration, are required in certain diseases of the lungs. We have a positive antipathy to notice in any manner, any of the nostrums or quack medicines,

with which the country is deluged; but this preparation cannot be comprised under this class, as its proposer has furnished us with its formula. It is certainly an elegant form for the exhibition of some of our most active agents. The following is the formula:—

B. Morphine Acetat. gr. iv.  
Tinct. Sanguinar. Canaden. 3ij.  
Vin. Antimonii Tartrat.,  
Vin. Ipecac. aa. 3iij.  
Syrup, Prun. Virgin. 3iij. M.

Messrs. W. Lyman & Co., have been appointed the agents for its sale in this city.

**Quebec Medical Board.**—At the quarterly meeting of this Board, held on the 5th February ult., the following gentlemen, after due examination, received Certificates for license to practice, viz., Messrs. Remi Cahier, and Chrysogone Sirois.

#### BILL.

*An Act to regulate the Study and practice of Medicine, Surgery and Midwifery, within this Province.*

Whereas it is expedient to provide more effectual Regulations than those at present existing with respect to persons practising Physic, Surgery and Midwifery, within this Province, and to regulate Druggists and others vending or distributing Medicines by retail:—Be it therefore enacted, &c.

And it is hereby enacted by the authority of the same, That from and after the passing of this Act, the Act or Ordinance of the Legislative Council of the late Province of Quebec, passed in the twenty-eighth year of the Reign of His late Majesty King George the Third, and intituled, "An Act or Ordinance to prevent persons practising Physic and Surgery within the Province of Quebec, or Midwifery in the Towns of Quebec and Montreal without License,"—and the Act of the Legislature of Upper Canada, passed in the fifty-ninth year of the same Reign, and intituled, "An Act to repeal an Act passed in the fifty-fifth year of His Majesty's Reign, intituled, 'An Act to license Practitioners in Physic and Surgery throughout this Province,' and to make further provision for licensing such Practitioners,"—and the Act of the said Legislature, passed in the same year of the same Reign, and intituled, "An Act to repeal part of and to amend an Act passed in the fifty-ninth year of his Majesty's Reign, intituled, 'An Act to repeal an Act passed in the fifty-fifth year of His Majesty's Reign, intituled, 'An Act to license Practitioners in Physic and Surgery, throughout this Province,' and to make further provision for licensing such Practitioners,"—and the Act of the said Legislature, passed in the eighth year of the Reign of His late Majesty King George the Fourth, intituled, "An Act to amend the Laws regulating the Practice of Physic, Surgery and Midwifery in this Province," and the Act of the Legislature of this Province passed in the Session held in the fourth and fifth years of Her Majesty's Reign, and intituled, "An Act to enable persons authorized to practise Physic or Surgery, in Upper or Lower Canada, to practise in the Province of Canada,"—and all Acts thereby continued, amended or repealed, and all other Acts or parts of Acts relating in any manner to the Practice of Physic, Surgery or Midwifery, either in Lower Canada or in Upper Canada, or in any manner relating to the mode of obtaining Licenses to Practise Physic, Surgery or Midwifery, shall be and are hereby repealed.

II. And be it enacted, That from and after the passing of this Act, no person shall be allowed to commence the Study of Medicine or any branch thereof with the view of practising as a Physician, Surgeon, Man-Midwife, Chemist or Druggist, until he has satisfied some Medical Board to be appointed and nominated as hereinafter mentioned, either by Certificate or examination that

he has received a liberal education, including a competent knowledge of the classics.

III. And be it enacted, That from and after the passing of this Act no person shall receive a License to practise Medicine, Surgery or Midwifery for gain or profit, within this Province, who shall not have obtained a Certificate from some Medical Board to be appointed and nominated as hereinafter mentioned, which shall be founded on the production of a Diploma, or Degree from some University, College, or School of Medicine incorporated by Royal Charter, within the dominions of Her Majesty, or on a Commission or Warrant as Physician or Surgeon in Her Majesty's Naval or Military Service, or in default of such Diploma, Degree or Commission, a Certificate founded on a satisfactory examination by such Medical Board as to his qualification, competency and ability to practise Medicine, Surgery and Midwifery: Provided always that previous to examination as aforesaid, he shall give satisfactory proof of his having studied Medicine Surgery and Midwifery for at least four years, under some competent Practitioner or Practitioners, and of his having during at least three of those years attended two Courses of Lectures at some University, College, or incorporated School of Medicine on the following branches of Medical Study, that is to say: Anatomy and Physiology, Chemistry and Pharmacy, Materia Medica, Theory and Practice of Physic, Principles and Practice of Surgery, Midwifery, and Diseases of Women and Children, Institutes of Medicine and Practical Anatomy, each of which courses of Lectures shall have continued at least six months, and have consisted of at least one hundred Lectures of not less than one hour each (one examination per week to be considered equivalent to a Lecture) and also of his having attended regularly for at least one year, or two periods of six months, the practice of some Public Hospital, where there are on the average at least fifty patients and at least two Medical attendants, and moreover one Course of Clinical Medicine and one of Clinical Surgery, each of six months duration: Provided always, that if any Student of Medicine, Surgery or Midwifery shall have commenced his studies within the four years next before the passing of this Act, and more than three years and a half before the passing thereof, he shall be entitled to apply for a License after the termination of four years of such study, and after having undergone a satisfactory examination by the said Medical Board without being required to exhibit testimonials of having attended more than once the several branches of Medical Study otherwise enjoined: Provided always, that nothing in this Act contained, shall be construed to extend to any candidate who shall produce a Degree or Diploma from any European (not British) or American University, or College of Medicine, if such candidate satisfy the Medical Board that he has been engaged in the study of Medicine, Surgery and Midwifery, during an uninterrupted period of not less than four years, and that he has attended at least one complete Course of Lectures in the various branches of Medicine as above specified, at some University, College or Incorporated School of Medicine, within the dominions of Her Majesty, and has moreover submitted to an examination as to his knowledge of Medicine, Surgery and Midwifery, and his competency to practise any or either of them, before any of the Medical Boards hereinafter mentioned.

IV. And be it enacted, That every person so receiving and obtaining such Certificate from any Medical Board shall forthwith pay to the Secretary of such Board the sum of (£1 10s.) currency, which sum shall be expended in defraying the incidental expenses of such Medical Board, as well as in keeping the Register thereof, as in the execution of the several duties hereby assigned to them.

V. And be it enacted, That every person so receiving and obtaining such Certificate from such Medical Board shall transmit the same to the Governor of this Province; and it shall and may be lawful on the application of such person, for the Governor to grant to such applicant a License under his Hand and Seal to practise Medicine, Surgery and Midwifery, or any of them, according to such certificate, within this Province.

VI. And be it enacted, That before the issuing of such License to practise as aforesaid, the applicant shall pay into the hands of the Provincial Secretary, the sum of \_\_\_\_\_ currency, to the public uses of the Province.

VII. And be it enacted, That if any doubt or suspicion should arise regarding the identity of any person presenting a Diploma

or Degree, Commission or Warrant as aforesaid, before any Medical Board, with the person named in such Diploma or Degree, Commission or Warrant, it shall be lawful for the said Medical Board, through the Chairman presiding for the time being, and he is hereby required and authorised to administer an oath or solemn affirmation (if such person be one of those authorized to affirm instead of taking an oath in civil cases) to the person presenting such Diploma, Degree, Commission or Warrant, as to such identity: and if any person so presenting such Diploma, Degree, Commission or Warrant, and applying for a Certificate or License as aforesaid shall be guilty of false swearing or false affirmation, in such oath or affirmation, such person shall be deemed guilty of wilful and corrupt perjury, and on conviction thereof shall be liable to the pains and penalties to which any person convicted of that offence is liable by the Laws of the Province.

VII. And be it enacted, That no person shall from and after the passing of this Act, receive a License to sell Drugs or Medicines as a Druggist or Apothecary, within any City, Town Corporate, or Village in this Province, who shall not have served a regular and continued apprenticeship of at least four years, with some Medical Practitioner or Licensed Druggist or Apothecary, and have attended during the two last years of such apprenticeship two Courses of Lectures on Chemistry, and two Courses of Lectures on the *Materia Medica*, (each of the duration of at least six months, and each consisting of at least one hundred lectures as aforesaid,) and one Course of Lectures on Botany of three months duration, if such Course of Lectures be obtainable; or who shall not have undergone a satisfactory examination touching his knowledge of the qualities, characters and effects of Drugs and Medicines before one of the Medical Boards hereinafter mentioned, under like formalities and on like conditions as are by this Act required for persons applying for a License to practise Physic, Surgery or Midwifery.

IX. And be it enacted, That nothing in this Act contained shall extend, or be construed to extend, to prevent women from practising as Midwives within this Province; Provided always, that after the expiration of two years from the passing of this Act, no woman shall practise for gain or hope of gain in any shape as a Midwife, unless she shall have presented herself before some Medical Board to be appointed and nominated as hereinafter mentioned and obtained therefrom a Certificate as to her qualification and competency to practise: Provided also, that in country places too far removed from Medical Boards, any woman may at the expiration of two years after the passing of this Act, obtain a License to practise as a Midwife in the especial District in which she resides, on submitting to an examination before, and obtaining a Certificate of qualification from any two regularly licensed Physicians or Surgeons practising in the same District.

X. And be it enacted, That nothing in this Act contained shall extend or be construed to extend, to prevent those persons practising as Apothecaries, Chemists and Druggists at the time of the passing of this Act, in that part of the Province heretofore called Upper Canada, from continuing to practice as such: Provided they have been engaged in that practice years before the passing of this Act.

XI. And be it enacted, That every Apothecary, Chemist and Druggist within this Province shall be bound carefully to keep in some private and safe place in his Shop or Dispensary, and in yellow bottles so as to be clearly and easily distinguished, with proper and legible labels in large letters upon each bottle or vessel, in order to prevent mistakes either by himself, his pupil, student, or other person intrusted with his Shop or Dispensary, all arsenic, corrosive sublimate, and every other substance generally known under the denomination of poison, under the penalty of (10) pounds currency for the first offence, and (20) pounds currency for every subsequent offence, and shall, unless the penalty be paid, be committed to the Common Gaol of the District for a period not exceeding three months, if convicted of the offence on the testimony of two credible witnesses before any Court of competent Jurisdiction.

XII. And be it enacted, That the practice of Medicine, Surgery or Midwifery within this Province, for hire, gain or lucre, or hope of hire, gain or lucre, or the retailing of any Drugs or Medicines within any City, Town Corporate or Village, in which a Licensed Druggist may dwell, by any person not having a License, or not specially excepted, shall be deemed and considered to be a misdemeanor, and may be prosecuted and punished as

any other misdemeanor may be; and every act of so practising on a separate day, shall be a separate offence; and upon the trial of any person charged with such misdemeanor, the burthen of proof as to the License or right of the person tried to practise Medicine, Surgery or Midwifery, or as a Chemist, Apothecary or Druggist in the Province shall be upon the defendant; but no prosecution shall be commenced for such misdemeanor after three months from the commission of the supposed offence; and no person convicted of such misdemeanor shall be sentenced to a longer period of imprisonment than three months, nor to a greater fine than pounds currency, nor to a less fine than pounds currency; Provided always, that nothing herein contained shall extend or be construed to extend to prevent any Physician or Surgeon, or other Medical Officer of Her Majesty's Navy or Army, on full pay from practising as such, while stationed within the said Province, and actually employed in the said Navy or Army.

XIII. Provided always, and be it enacted, That the restrictions and penalties hereinbefore mentioned, shall not extend to prevent any Physician or Surgeon residing within the United States of America, and near the Province line, and authorised under the laws of the said United States to practise Physic or Surgery, from occasionally and in urgent cases, visiting sick persons on this side the Province line, or from prescribing for such persons, when he shall be called upon so to do.

XIV. And be it enacted, That for the purpose of carrying this Act into execution, it shall be lawful for the Governor of this Province to constitute, nominate and appoint under his Hand and Seal at Arms, one or more Medical Boards within this Province, consisting respectively of at least fifteen persons legally authorised to practice as Physicians, Surgeons, or Man-midwives, and actually practising as such, (not being Physicians or Surgeons on full pay in Her Majesty's Army or Navy,) and from time to time to remove any or all of the Members of any such Board, and appoint another or others in his or their place or stead, and seven members of any such Board shall be a *quorum*, and a majority of such *quorum* may exercise any of the powers of the Board, and each such Board is hereby required to hold a stated meeting once at least in every three months, at such place as shall be appointed by the Governor of this Province, of which meeting at least three weeks notice shall be given in at least two newspapers, one of which shall be if possible a French one, published in the City or Town at which such Board shall hold its meeting, or if there be no such newspapers then in two newspapers published nearest to the place at which such meeting shall be so held; and at any such meeting, the Member present whose License shall be of the oldest date shall preside; and each such Board shall have power and authority to frame By-laws and regulations for its government, and from time to time to alter and amend the same by other By-laws; Provided, such By-laws or Regulations be not repugnant nor contrary to the laws of this Province, nor to the true intent and meaning of this Act, and be approved of by the Governor of this Province, before they shall have any force or effect.

XV. And be it enacted, That each such Medical Board at any of its stated meetings as aforesaid, or at any extraordinary meetings that may be called together in conformity with its By-laws and Regulations, shall hear and examine the testimonies and qualifications of each and every person so appearing before such Board, and who shall be desirous of obtaining a License to practise Physic, Surgery or Midwifery or any of them, and who shall have notified the Secretary of the said Board of his or their intention thereof, and deposited his testimonials, at least seven days previous to such meeting, and such Board being satisfied of the correctness of the Diploma, Degree or Commission exhibited by the applicant, and of the identity of the person presenting the same, or in default of such document, having examined into and become satisfied of the qualification, competency and ability of such applicant to practise Medicine, Surgery or Midwifery, and of his having attained the age of twenty-one years and of his having studied four years as aforesaid and of his having attended in three separate years complete Courses of Lectures on the different branches before mentioned of the Medical Profession, in some University, College or Incorporated School of Medicine where the Courses of Lectures are continued during at least six months, and of having attended for at least one year the practice of some public Hospital where there are at least on an average fifty patients, and at least two Medical attendants,—or of having ex-

amined into the qualification, competency or ability of any applicant to sell Drugs or Medicines as a Druggist or Apothecary, within any City or Town corporate within this Province, and of his having served a regular and continued apprenticeship with some regular Medical Practitioner or Licensed Druggist or Apothecary during a period of four years at the least, and of his having attended the Courses of Lectures hereinbefore mentioned, of the duration specified, shall be bound to grant a Certificate of the same, under the Hands and Seals of the Members of the said Board present at such meeting, or a majority thereof, which shall entitle the person to whom it shall be so given, to apply for and obtain a License to practise Medicine, Surgery and Midwifery or any of them, as the case may be, or to sell Drugs and Medicines as a Druggist and Apothecary as aforesaid, from the Governor of this Province.

XVI. And be it enacted, That nothing in this Act contained shall extend or be construed to extend to prevent persons duly licensed to practise Medicine or Surgery from practising as Apothecaries, Chemists or Druggists within any part of this Province.

XVII. And be it enacted, That it shall be annually the duty of the Medical Boards to apply the surplus funds accruing from the fees of Licenciates, after defraying their own necessary expenses, towards the giving of premiums, for the best papers on subjects of Medical Science at the discretion of the Board under such restrictions and limitations as to the Boards may appear fit and proper.

XVIII. And be it enacted, That with a view to check and abate the ravages of small pox, all persons inoculating any infant, youth or adult person with *virus* taken from the person of an individual labouring under that disease and commonly known under the name of natural pox, shall be guilty of a misdemeanor, and any person convicted of the same on the testimony of two credible witnesses before any two Justices of the Peace, shall be fined in the sum of (five) pounds currency for the first offence, and (10) pounds currency for every subsequent one, and in default of such fine not being paid shall be committed to the Common Gaol of the District for a period of not less than three months, nor more than months.

XIX. And be it enacted, That all penalties imposed by this Act shall be payable to Her Majesty, and reserved to the public uses of the Province, and shall make part of the Consolidated Revenue Fund thereof, and the application of the same shall be accounted for to Her Majesty, Her Heirs and Successors, through the Lords Commissioners of Her Majesty's Treasury for the time being, in such manner and form as Her Majesty, Her Heirs and Successors shall be pleased to direct.

#### REPORT OF THE TORONTO LUNATIC ASYLUM.

We acknowledge the reception from Dr. Rees, the late Physician of the Toronto Lunatic Asylum for the Insane, of the Report of that Institution for the last year, with a Summary for the last five years. At the late hour at which they were received, we find it impracticable to pay that attention to them which their importance demands. The crowded state of our columns, from matters which are of extreme importance to the profession at large, entirely precludes this. We have, however, examined the documents, and find in them abundant demonstration of Dr. Rees' perfect fitness for the full discharge of the important duties with which he had been invested, and which, we are sorry to understand, have been rather abruptly terminated. Dr. Rees' health has been much impaired from, we understand, some injuries received from a lunatic, and he is now preferring some claims to the Government for salary, awarded by the Provincial statute, in which we hope he will be successful. We have never heard but one sentiment in his favour, viz., one of praise; and it is to his exertions that the Toronto Asylum chiefly owes its existence.

The Journal will appear in future the 1st of the

month, instead of the 15th, by which arrangement we will be enabled, especially during the winter months, to furnish the latest medical intelligence from the mother country.

Return of interments in the city of Quebec, for the months of January, February, and March, 1846.

Month.	Male.	Female.	Total.	1 year and under	1 to 3.	3 to 10.	10 to 20.	20 to 35.	35 to 50.	50 to 65.	65 to 70.	70 to 80.	80 to 85.
Jan.	75	65	140	41	36	19	16	9	9	7	2	1	
Feb.	121	94	215	70	87	30	7	9	10	1	1		
March	109	105	214	59	72	33	6	24	7	6	1	4	2
Total	305	264	569	170	195	82	29	42	26	14	4	5	2

#### BOOKS, &c., RECEIVED DURING THE MONTH.

London Medical Gazette, October 3, 1844.  
 Annual Report of the Board of Trustees, of the Massachusetts General Hospital, for year 1845.  
 The American Journal and Library of Dental Science, March number.  
 Dublin Medical Press, Feb. 4th, 11th, 18th, and 25th; March 4th, 7th, 11th, 18th, 25th, and April 1st.  
 Provincial Medical and Surgical Journal, Feb. 4th and 18th; March 4th.  
 Stockton's Dental Intelligencer, Vol. ii., No. 4.  
 Boston Medical and Surgical Journal, Nos. 7, 8, 9, 10, 11, 12.  
 Missouri Medical and Surgical Journal, No. 10. and 11.  
 American Journal of Insanity, Vol. ii., No. 4, April.  
 New Orleans Medical and Surgical Journal, Vol. ii., No. 5, March.  
 St. Louis Medical and Surgical Journal, Vol. iii., Nos. 10 and 11.  
 New York Medical and Surgical Reporter, Nos. 12, 13 and 14.  
 The Medical News and Library, April, 1846.  
 The Southern Medical and Surgical Journal, April.  
 The American Journal of the Medical Sciences, April.  
 The Illinois Medical and Surgical Journal, Vol. ii., Nos. 11 and 12.  
 Summary of the Transactions of the College of Physicians, Philadelphia, from Nov. 1845, to March 1846.  
 G. & H. G. Langley's Medical Catalogue, for 1846; 8 Astor House, New York.  
 Southern Journal of Medicine and Pharmacy, Vol. i., No. 2.  
 We would esteem it a favour to be put in possession of the first number.  
 The comparative merits of Allopathy, the old medical practice, and Homoeopathy the reformed medical practice practically illustrated by J. G. Rosenstein, M.D., Montreal, 1846.

#### NOTICE TO CORRESPONDENTS.

We acknowledge from Messrs. Longman & Co., London, the receipt of a note accompanying an October number of the London Medical Gazette, with a request to exchange. It will give us much pleasure to reciprocate, and we shall accordingly transmit our numbers regularly with their issue, commencing from this number, the first of the 2d vol. Messrs. Longman & Co's note, though dated October 6, did not reach us until the 26th March; why it was so long in route, we cannot comprehend.

#### ERRATA.

At page 312, line 25, in Dr. Marden's paper—for *supra*, read *infra*. The 6th line from the bottom, for *Trimus* read *Linnaeus*. Negative signs should have been prefixed to the following observations on the Toronto Registers for January and February, to indicate temperatures below zero, January 22, at 7 a. m.—0°.4 for 0°.4. Lowest Temperature —1°.9, for 1°.9. Feb. 12, 7 a. m.—5°.3, for 5°.3. Feb. 26, —10°.8 10°.0. —3°.1 for 10°.8, 10°.0, and 3°.1 at 7 a. m., and 10 p. m., and mean, respectively. Feb. 27, —12°.4, for 12°.4. 7 a. m. Lowest Temperature —16°.7 for 16°.7



# Bill of Mortality for the City of Montreal, for the month ending March 31, 1846.

DISEASES	Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Measles, .....	13	10	23	8	5	6	4						
	Scarlatina, .....	3	7	10	2	2	4	2						
	Small-pox, .....		1	1	1									
	Whooping Cough,....	1	2	3	1	2								
	Fever, .....	23	12	35	14	9	4	4	2			1	1	
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Paralysis, .....	1	1	2				1						
	Dentition, .....	2	3	5	2	3						1		
	Apoplexy, .....		1	1						1				
	Insanity, .....		1	1						1				
DISEASES OF THE THORACIC VISCERA,	Consumption, .....	16	23	39	4	3	1	1	10	7	6	9	1	
	Croup, .....	7	3	10	6	2	2							
	Ossification of the Heart, .....	1		1							1			
	Jaundice, .....		1	1		1								
DISEASES OF ABDOMINAL VISCERA,	Dropsy, .....	2		2				1	1					
	Child-birth, .....		1	1					1					
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Sudden & Accidental Killed, .....	2	1	3				1		1			1	
	Cancer, .....	1		1						1				
	Gangrene, .....	1		1						1				
	Inflammation, .....	13	10	23	8	5	1	1	1	2	1	4		
	Still-born, .....	5	4	9	9									
	Debility, .....	1	6	7									3	4
	Total, .....	92	88	180	55	32	18	12	4	15	14	8	15	6
														5

## MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR MARCH, 1846.

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	— 5	+16	+ 1	+ 5.5	30.44	30.37	30.43	30.41	N. W.	N. W.	N. W.	Fair	Fair	Fair
2,	— 6	" 17	" 10	+ 5.5	30.50	30.44	30.47	30.47	N. W.	N. W.	N. W.	Fair	Fair	Fair
3,	+ 5	" 22	" 11	" 13.5	30.50	30.41	30.22	30.38	N. W.	N. W.	N. W.	Fair	Fair	Fair
4,	" 18	" 41	" 33	" 29.5	30.10	29.96	29.61	29.89	W. N. W.	W.	W. by S.	Fair	Fair	Rain
5,	" 37	" 38	" 23	" 37.5	29.62	29.74	29.90	29.75	W. by N.	N. W.	N. W.	Cloudy	Fair	Fair
6,	" 11	" 30	" 16	" 20.5	29.94	29.96	30.02	29.97	N. W.	N. W.	N. W.	Fair	Fair	Fair
7,	" 12	" 27	" 15	" 19.5	30.12	30.08	29.96	30.05	N. W.	N. W.	N. W.	Fair	Fair	Fair
8,	" 12	" 34	" 26	" 23.—	29.86	29.82	29.92	29.87	N. W.	N. W.	N. W.	Snow	Fair	Fair
9,	" 25	" 40	" 30	" 32.5	29.93	30.04	30.17	30.05	N. W.	N. W.	N.W.byW	Fair	Fair	Fair
10,	" 26	" 36	" 23	" 31.—	30.33	30.32	30.30	30.32	N.W.byW	N. W.	W. N. W.	Fair	Fair	Fair
11,	" 18	" 43	" 33	" 30.5	30.35	30.30	30.37	30.34	W. by S.	W. S. W.	S. W.	Fair	Fair	Fair
12,	" 32	" 44	" 37	" 38.—	30.18	30.12	30.00	30.10	W. S. W.	W. by S.	S. W.	Fair	Fair	Rain
13,	" 42	" 46	" 41	" 44.—	29.94	29.81	29.60	29.78	S. W.	S. W.	S.W. by S	Rain	Rain	Rain
14,	" 45	" 46	" 33	" 45.5	29.48	29.39	29.28	29.38	S. by E.	S.	S.	Foggy	Rain	Fair
15,	" 32	" 44	" 34	" 38.—	29.42	29.45	29.60	29.49	S. W.	W.	W. S. W.	Fair	Fair	Fair
16,	" 33	" 45	" 32	" 39.—	29.70	29.72	29.77	29.73	W. by S.	W.	W.	Fair	Fair	Fair
17,	" 26	" 36	" 38	" 31.—	29.87	29.81	30.00	29.89	N.W.byW	N.W.byW	N. W.	Fair	Fair	Fair
18,	" 23	" 40	" 33	" 31.5	30.10	30.07	30.03	30.07	N. W.	N. W.	N.W.byW	Fair	Fair	Fair
19,	" 31	" 49	" 34	" 40.—	29.97	29.96	29.97	29.97	W. N. W.	W.	W.	Fair	Fair	Fair
20,	" 34	" 50	" 41	" 42.—	30.00	29.94	29.98	29.97	W.	W.	W.	Fair	Fair	Fair
21,	" 43	" 45	" 34	" 44.—	29.88	30.00	30.20	30.03	W. by N.	W. by N.	W. by N.	Cloudy	Fair	Fair
22,	" 28	" 40	" 33	" 34.—	30.40	30.34	30.30	30.35	N.W.byW	N.W.byW	N.W.byW	Fair	Fair	Fair
23,	" 27	" 46	" 34	" 36.5	30.28	30.16	29.96	30.13	N.W.byW	N.W.byW	N. W.	Fair	Fair	Fair
24,	" 33	" 46	" 35	" 39.5	29.93	29.92	29.88	29.91	N. W.	N.W.byW	N. W.	Cloudy	Fair	Fair
25,	" 33	" 48	" 45	" 40.5	29.75	29.68	29.55	29.66	N. W.	N.W.byN.	N. W.	Rain	Rain	Cloudy
26,	" 38	" 48	" 36	" 43.—	29.53	29.50	29.52	29.52	E. by S.	E. by S.	E. by S.	Rain	Rain	Fair
27,	" 37	" 50	" 37	" 43.5	29.60	29.67	29.72	29.66	E.	E.	E.	Foggy	Fair	Fair
28,	" 38	" 50	" 37	" 44.—	29.73	29.78	29.80	29.77	S.W.byW	S.W.byW	W.	Fair	Fair	Fair
29,	" 36	" 46	" 36	" 41.—	29.88	29.89	29.96	29.91	W.	W.	W.	Cloudy	Fair	Rain
30,	" 31	" 42	" 35	" 36.5	30.10	30.12	30.16	30.13	W.	W.	W.	Snow	Fair	Cloudy
31,	" 34	" 46	" 33	" 40.—	30.21	30.24	30.30	30.25	W.	W.	W.	Fair	Fair	Fair

Therm. { Max. Temp., +50° on the 20th, 27th, 28th.  
 " Min. " — 6° " 2d.  
 Mean of the Month, +33° .55

Barometer, { Maximum, 30.50 inches on the 2d & 3d.  
 " Minimum, 29.28 " " 14th.  
 Mean of Month, 29.974 inches.

Day.	Barometer at Temp. of 32°.			Tension of Vapour.			Temperature of the Air.			Humidity of the Air.			Wind.			Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.		
1,	29.965	29.965	—	—	.081	.100	—	—	13.3°	19.6°	—	—	.94	.91	—	—	Generally clear. Detached clouds.
2,	29.972	30.000	30.053	30.027	.076	.115	.069	.085	14.6	26.6	12.8°	17.1°	.86	.79	—	—	Generally clear. Detached clouds.
3,	30.090	29.986	29.852	29.956	.059	.133	.095	.100	10.6	29.9	17.4	22.1	.78	.80	—	—	Generally clear. Detached clouds.
4,	29.740	29.505	29.450	29.540	.081	.172	.152	.148	20.0	37.1	36.8	32.1	.78	.79	—	—	Generally clear. Detached clouds.
5,	29.573	29.531	29.563	29.564	.139	.143	.101	.138	30.8	43.3	32.2	34.5	.80	.51	—	—	Generally clear. Detached clouds.
6,	29.496	29.532	29.704	29.600	.148	.129	.071	.107	28.9	29.4	13.3	21.4	.85	.98	—	—	Generally clear. Detached clouds.
7,	29.672	29.492	29.459	29.607	.075	.165	.161	.141	13.9	30.2	30.0	28.5	.70	.55	—	—	Generally clear. Detached clouds.
8,	29.384	29.485	—	—	.144	.147	—	—	35.2	42.3	—	—	.70	.55	—	—	Generally clear. Detached clouds.
9,	29.865	29.869	29.842	29.858	.140	.162	.151	.153	33.4	35.7	32.1	34.0	.73	.78	—	—	Generally clear. Detached clouds.
10,	29.878	29.839	29.902	29.889	.136	.152	.130	.141	30.2	40.2	27.0	32.5	.81	.62	—	—	Generally clear. Detached clouds.
11,	29.850	29.752	29.719	29.762	.131	.169	.159	.156	24.8	39.5	33.2	34.6	.96	.70	—	—	Generally clear. Detached clouds.
12,	29.652	29.591	29.514	29.548	.174	.229	.240	.218	36.2	39.8	40.2	39.8	.82	.94	—	—	Generally clear. Detached clouds.
13,	29.385	29.012	29.117	29.188	.229	.261	.216	.235	39.1	43.7	36.7	39.2	.95	1.00	—	—	Generally clear. Detached clouds.
14,	29.092	29.012	29.115	29.133	.200	.153	.141	.171	36.1	37.6	30.4	34.3	.95	.81	—	—	Generally clear. Detached clouds.
15,	29.137	29.169	—	—	.157	.164	—	—	33.9	37.1	—	—	.79	.74	—	—	Generally clear. Detached clouds.
16,	29.381	29.539	29.660	29.567	.128	.151	.118	.126	29.4	31.4	24.8	28.0	.79	.85	—	—	Generally clear. Detached clouds.
17,	29.778	29.735	29.816	29.800	.113	.131	.118	.117	26.1	35.6	24.4	27.3	.79	.63	—	—	Generally clear. Detached clouds.
18,	29.861	29.751	29.715	29.766	.116	.147	.135	.141	24.8	39.3	33.4	33.8	.85	.61	—	—	Generally clear. Detached clouds.
19,	29.681	29.606	29.646	29.636	.157	.177	.149	.153	36.6	45.2	30.8	37.3	.73	.59	—	—	Generally clear. Detached clouds.
20,	29.702	29.540	29.634	29.619	.159	.219	.191	.176	30.0	46.7	38.0	39.1	.95	.70	—	—	Generally clear. Detached clouds.
21,	29.832	29.911	30.004	29.896	.124	.128	.120	.131	32.0	37.7	26.8	33.7	.67	.56	—	—	Generally clear. Detached clouds.
22,	30.124	30.010	—	—	.156	.151	—	—	33.2	39.7	—	—	.82	.61	—	—	Generally clear. Detached clouds.
23,	29.738	29.532	29.492	29.559	.160	.170	.159	.184	35.3	40.6	38.2	39.2	.78	.67	—	—	Generally clear. Detached clouds.
24,	29.433	29.362	29.238	29.293	.223	.226	.230	.222	38.8	41.0	41.3	39.5	.95	.89	—	—	Generally clear. Detached clouds.
25,	29.003	28.944	29.101	29.024	.222	.246	.194	.218	38.8	40.7	38.2	38.6	.95	.98	—	—	Generally clear. Detached clouds.
26,	29.114	29.070	29.142	29.121	.183	.210	.192	.201	35.6	43.7	36.0	38.6	.88	.74	—	—	Generally clear. Detached clouds.
27,	29.178	29.265	29.373	29.298	.196	.203	.189	.199	26.7	41.4	36.8	34.2	.91	.79	—	—	Generally clear. Detached clouds.
28,	29.395	29.407	29.495	29.519	.174	.179	.161	.167	34.3	37.8	34.2	34.9	.89	.79	—	—	Generally clear. Detached clouds.
29,	29.603	29.601	—	—	.156	.169	—	—	35.7	37.9	—	—	.75	.74	—	—	Generally clear. Detached clouds.
30,	29.845	29.829	29.885	29.870	.158	.160	.143	.154	33.2	38.8	29.4	34.2	.83	.68	—	—	Generally clear. Detached clouds.
31,	29.950	29.960	30.059	30.011	.154	.175	.139	.154	32.4	42.1	31.5	34.8	.84	.66	—	—	Generally clear. Detached clouds.
Mean	29.6237	29.5746	29.5974	29.6026	.148	.175	.153	.159	30.1	38.3	31.0	33.4	.85	.76	—	—	Generally clear. Detached clouds.

• Snow 2.3 inches.  
 Highest Barometer, .. 30.103 at 9 a.m. on 3rd.  
 Lowest do. .. 28.927 at noon on 25th.  
 Highest Temperature, .. 49° 6 on 18th p.m.  
 Lowest do. .. 7° 8 on 3rd a.m.  
 Mean Daily Range, .. 16° 33  
 Extreme Daily Range, .. 24° 3 on 4th, from a.m. to p.m.

Proportion of Wind from each Quarter—  
 N.W. .. 91  
 W. .. 286  
 S.W. .. 286  
 S.E. .. 286  
 Total, 694

Temperature for March.  
 Year. Mean. Max. Min. Range.  
 1840. 22.4° 58.6° 9.3° 49.3°  
 1841. 26.3° 64.6° 6.7° 57.9°  
 1842. 26.3° 70.3° 16.1° 54.2°  
 1843. 26.3° 58.9° 2.6° 56.3°  
 1844. 21.3° 50.8° 9.6° 41.2°  
 1845. 25.6° 59.8° 6.6° 53.2°  
 1846. 25.4° 49.6° 1.8° 48.2°

Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in declivity of an inch of Mercury, or the proportion of the Barometric pressure due to its presence—  
 The head of Humidity of the Air, is given in the proportion the Aqueous Vapour bears to the quantity the air is capable of containing at the existing temperature, saturation being represented by 100.  
 The Instruments are Standard Instruments. The Rain Gauge 37 feet above the soil. The Mean entered are the Means by 24 hourly Observations, from 6 a.m. to 6 p.m.  
 The quantity of Rain or Snow received each 24 hours, is noted at 9 a.m., and is entered in inches.  
 Note.—The mean temperature for January and February 1846, are the means by four daily observations only, viz., at 3 a.m., and 9 a.m., and 3 p.m., and 9 p.m.

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UNIVERSITY OF MCGILL COLLEGE,  
SUMMER SESSION,  
FACULTY OF MEDICINE,

The summer session in the above Faculty will commence on Monday May 11th, at the University Buildings (Burnside). Until further notice, the following courses of lectures will be commenced, to terminate in the last week of July:—

Medical Jurisprudence, by Dr. Fraser.  
Botany, " Dr. Papineau.  
A. F. HOLMES, M. D.  
Secretary.

NOTICE.

MEDICAL BOARD FOR THE DISTRICT OF MONTREAL.

THE next Quarterly Meeting of this Board, for the Examination of Candidates for Provincial License, will be held at the Odd Fellows' Hall, in this City, on Tuesday, the 5th of May ensuing, at two o'clock, p. m. Candidates are required to lodge their credentials with the Secretary, at least eight days before the Meeting.

S. C. SEWELL, M. D., Secretary.  
Montreal, February 13, 1846.

NATURAL HISTORY SOCIETY.

THE Ordinary Monthly Meeting of this Society, will be held at its Rooms, Little St James Street, on Monday evening, the 25th inst., at Eight o'clock. Members are particularly requested to attend.

WM. FRASER, M.D., Secretary.  
Montreal, May 1, 1846.

R. W. REXFORD,  
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ing Tissue,	slabs,
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# THE BRITISH AMERICAN JOURNAL

OF

## MEDICAL AND PHYSICAL SCIENCE.

[II.]

MONTREAL, JUNE, 1846.

[No. 2.]

**JOURNAL OF PATIENTS** admitted into the Provincial Lunatic Asylum, Toronto, from September, 1844, to 21st October, 1845. With an abstract of Returns from the opening of the Institution, January 21, 1841, to 21st October, 1845. By W. REES, Medical Officer in charge.

Since the last Annual Return, (1st September, 1844, to the 21st October, 1845,) the admissions and re-admissions to this Asylum amount to 80, (54 males, and 26 females. There remained in the Institution on the 1st September, 1844, 69 patients—38 males, and 31 females; being in all 149 patients under treatment during the above period. Of this number 50 have been discharged cured, and 7 have been discharged relieved, removed by their friends, 17 died, and 75 patients are remaining, of whom 7 are convalescent.

Of the cured, 31 were discharged within three months of their admission. Of the 17 deceased between the 1st September, 1844, and the 21st October, 1845, 12 were old cases, and 5 recent. Of the old cases, 4 died in a state of fatuity, 1 was a congenital idiot, and 1 epileptic. Of the recent cases, 1 died within three days of admission, being brought to the Asylum in a state of inanition.

Since the opening of the Asylum, 331\* patients, including re-admissions, have been received, (some of them idiotic or incurable from other causes.) Of this number 163, or 49 <sup>51</sup>/<sub>331</sub> per cent, have been discharged cured; 55, or 16 <sup>204</sup>/<sub>331</sub> per cent, have been discharged relieved, or removed; and 38, or 11 <sup>159</sup>/<sub>331</sub> per cent, died.

Of the cured, 91, or 27 <sup>163</sup>/<sub>331</sub> per cent., were discharged within three months of their admission; 28, or 8 <sup>152</sup>/<sub>331</sub> per cent, within six months; 13, or 3 <sup>307</sup>/<sub>331</sub> per cent, within nine months, and the remainder from one to four years after admission.

In 107 of the patients discharged cured, the duration of the disease before admission and during treatment, was one year and under; in 16, from one to two years; in 6, from two to three years; and in 5 from three to five years; of the remainder no particulars could be ascertained.

\* 332 are on the Steward's books as admissions and re-admissions; but one patient being removed on the day following her admission, and not being subjected to medical treatment, does not appear in my Returns.

Tables exhibiting the civil condition, and other particulars, are herewith subjoined. In regard to the more minute details, the treatment pursued, together with the general economy of the Institution, nothing farther remains to be observed, these matters being contained in the last Report.

ANNUAL RETURN OF PATIENTS admitted, discharged, died, and remaining in the Provincial Lunatic Asylum, from the 1st September, 1844, to the 21st October, 1845 :—

Form of Disease.	R'main on 1st Sept'r, 1844.			Admitted.			Dis-charg'd cured.			Disch'd relief'd or removed.			Died.			R'main convalescent.			R'main under tr'tment Oct. 21, 1845.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Monomania	18	7	25	26	14	40	22	13	35	1	1	2	1	2	3	4	0	4	16	9	25
Mania, -	10	21	31	23	11	34	10	4	14	1	1	2	3	3	6	2	0	2	19	15	34
Dementia or Fatuity, -	7	2	9	5	1	6	0	0	0	0	2	2	7	1	8	0	1	9	5	14	
Idiotcy, -	3	1	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	
Total,	38	31	69	54	26	80	13	17	30	2	4	6	12	5	17	6	1	7	45	30	75

ABSTRACT OF RETURNS from the commencement of the Provincial Lunatic Asylum, 21st January, 1841, to the 21st October, 1845 :—

DATES.	Remaining at the end of each year.	Admitted each year.	Discharged cured.	Discharged relieved or removed.	Died.	Remaining convalescent.	Remaining under treatment.
From the opening of the Institution, Jany. 21, 1841, to Sept. 1, 1842.	—	126	59	15	7	15	30
On the 1st Sept., 1842.	45	—	—	—	—	—	—
From Sept. 1, 1842, to Sept. 1, 1843, - - -	—	68	30	23	9	9	42
On the 1st Sept., 1843.	51	—	—	—	—	—	—
From Sept. 1, 1843, to Sept. 1, 1844, - - -	—	57	24	10	5	3	66
On the 1st Sept. 1844.	69	—	—	—	—	—	—
From Sept. 1, 1844, to Oct 21, 1845, - - -	—	80	50	7	17	7	68
On the 21st Oct. 1845.	75	—	—	—	—	—	—
Total, - - - - -	—	331	163	55	38	—	—



TABLES exhibiting the number of Patients, the causes of the disease, the trade or occupation, the religious denomination, and the place of birth of each, as nearly as could be ascertained:—

No. I.

Causes of Disease.	Males.	Females.	Total.
Chagrin, .....	2	2	4
Cerebral Disease, .....	17	15	32
Disease of Digestive Organs, ..	26	12	38
Irregularities and Depravity, ..	25	16	41
Cold while under influence of Mercury, .....	1	—	1
Reverses in Life, .....	9	2	16
Disappointment in Love, .....	1	7	3
Intemperance, .....	29	15	44
Inordinate Mental Exertion, ..	1	—	1
Domestic Affliction, .....	4	7	11
Fright, .....	5	4	9
Fanaticism, .....	9	7	16
Gambling, .....	3	—	3
External Injury of the Head, ..	6	1	7
Jealousy, .....	2	1	3
Uterine Disease, .....	—	3	3

No. II.

## Causes of Decease.

Apoplexy, .....	2
Atrophy, .....	4
Bilious Diarrhæa, .....	1
Pulmonary Consumption, .....	5
Dropsy of Chest, .....	2
Inflammation of Brain, .....	14
Chronic Inflammation of Digestive Organs, ..	6
External Injury of Head, .....	2
Inanition, .....	2

No. III.

AGE and CONDITION of such of the Patients as could be ascertained.

MALES.	FEMALES.
Under 20 years of age, .. 8	Under 20 years of age, .. 10
Between 20 and 30, ... 76	Between 20 and 30, ... 29
Between 30 and 40, ... 42	Between 30 and 40, ... 36
Between 40 and 50, ... 32	Between 40 and 50, ... 29
Between 50 and 60, ... 11	Between 50 and 70, ... 9

No. IV.

## Condition.

MALES.	FEMALES.
Married, .....	77
Single, .....	79
Widowers, .....	9
165	132
Orphans, .....	11

No. V.

Discharged cured of recent cases.

Duration in Asylum.	
From within three months, -	91
From within three to six months	23
From within six to nine months	13
From within nine to twelve, -	11
143	

No. VI.

Discharged cured of old cases.

Duration in Asylum.	
From one to two years, -	13
From two to three years, -	10
From three to five years, -	6
29	

No. VII.

## Trade or Occupation of the Patients.

Carpenters, .....	5	Mercantile, .....	5
Blacksmiths, .....	7	Printers, .....	1
Bricklayers & Plasterers, ..	9	Schoolmasters, .....	1
Tinsmiths, .....	3	Labourers, .....	6
Tailors, .....	4	Seamstresses, .....	5
Shoemakers, .....	7	Servants, .....	9
Weavers, .....	1	Pilot, .....	1
Tavern keepers, .....	2	Farmers, .....	7
Pedlars, .....	4	Shipwrights, .....	1
Dyers, .....	1	Medical, .....	3
Butchers, .....	2	Military, .....	1
Soldiers, .....	5	Law, .....	1
Plumbers, .....	1	Divinity, .....	1
Tanners, .....	2		

No. VIII.

## Religious Denomination of Patients.

Church of England, ... 33	Roman Catholics, ... 65	Presbyterians, ... 44	Methodists, ... 42	Baptists, ... 8	Menonists, ... 2	Universalists, ... 1	Jews, ... 1
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No. IX.

## Place of Birth.

Natives of England, ... 68	" Ireland, ... 138	" Scotland, ... 32	Canadians, ... 28	French Canadians, ... 6	Germans, ... 5	Americans, (six were people of colour,) ... 9
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No. X.

RETURN of the DISTRICTS from whence the Patients have been sent to the Asylum.

DISTRICTS.	No.	DISTRICTS.	No.
Home, .....	69	Western, .....	6
Gore, .....	20	London, .....	7
Newcastle, .....	23	Eastern, .....	4
Niagara, .....	20	Dalhousie, .....	2
Midland, .....	15	Bathurst, .....	9
Wellington, .....	8	Victoria, .....	3
Simcoe, .....	13	Colborne, .....	3
Johnstown, .....	12	City of Toronto, ...	83
Brock, .....	5	Canada East, ...	1
Huron, .....	4		
Talbot, .....	3	Total, .....	310

N.B. No information received respecting the remaining 21.

WM. REES.

Toronto, 1st December, 1845.

## POISONING BY CAMPHOR.

By THOMAS REYNOLDS, M.D., Brockville, C.W.

Mr. C., ætat 20, of a healthy constitution, and full habit, was standing in a shop where a druggist was breaking up cakes of camphor to put up in bottles. Talking to a bystander, he began to eat the crumbs of camphor, and unconsciously swallowed, bit by bit, probably from one to two drachms in the course of a few minutes. Feeling a degree of headache coming on suddenly, and without thinking of the cause, he went to the open air, felt greatly exhilarated, met a friend in the street with whom he proposed to have a rubber of whist. Upon reaching his lodgings, he said he felt unusually clear-headed, and felt quite confident that he could play a capital game. Soon after sitting down, his gestures and conversation became very strange and wild. Leaving the room suddenly, he retired to his

bedroom adjoining, and returned, to the no small astonishment of his friends, naked and dancing wildly about, and attempting to jump out of the window. I was sent for, and upon questioning him, found that he had been eating camphor, as described above. I found him in a state of great excitement, almost amounting to phrenzy, his pulse 180 and small—conjunctiva injected—pupil not much dilated, scarcely sensible to light—countenance pale and haggard—breathing hurried, and at times greatly laboured—a frequent desire to make water, with some pain in the course of the spermatic vessels—urine quite clear, but having, as well as the perspiration, a very strong odour of camphor—a clammy sweat breaking out over the body. Druehm doses of vinum opii, which happened to be at hand, were administered every fifteen minutes. After the third dose there was a tendency to vomiting, which was freely encouraged by giving tepid water and vinegar. Some of the camphor was thrown up with the contents of the stomach. After the vomiting, drowsiness came on; but as the pulse was still very small, and the respiration hurried, it was thought advisable to keep him awake, and keep up the administration of the vin. opii. in doses of ʒss. every twenty minutes. After a few doses the pulse became fuller and less frequent—the countenance much less anxious—the respiration less hurried, and he was allowed to fall into a sleep, in which he continued for about three hours, starting at intervals, but becoming gradually composed. When he awoke, he had but a very confused idea of what had occurred; recollected something about camphor, and asked “What have I been doing? Have I been making a fool of myself?” &c. There was very little headache or stupor after the opium, but the stomach and bladder were irritable for a few days. These and all other unpleasant symptoms gradually disappeared after the use of a few bottles of Caledonia water. For some days he complained that he could not take his usual glass of wine at dinner, without feeling the effect upon his head; this would probably arise from the action of the camphor on his brain, as well as upon the other organs of the body. He described the sensation while under the influence of the camphor as most exhilarating, but gradually becoming oppressive. From the quantity of camphor taken, I have very little doubt this might have proved a fatal case but for the timely use of the opium; and as wine is recommended in these cases, perhaps the vinum opii. is one of the best forms for its administration.

Decem er, 1845.

## POISONING BY CORROSIVE SUBLIMATE.

To the Editors of the *British American Journal of Medical and Physical Science.*

The subjoined memoranda of a case of poisoning with the bichloride of mercury, I transmit to you for publication, if you consider them worthy of it, in the hope that they may prove beneficial to any brother practitioner, should a similar case ever occur to him. The unusual features of this instance, are the shortness of time that elapsed from the reception of the poison into the stomach, to the fatal termination, and the total absence of circumstances to lead to the suspicion of poison at the first appearance of the symptoms.

THEOPHILUS MACK, M. D.

*St. Catharines, May 7, 1846.*

Upon my return from the Country on the afternoon of the 1st April ult., I found a messenger from Samuel Stinson, Innkeeper of this Town, who stated Stinson was suffering extreme agony from having swallowed that morning two ounces of Epsom salts, which he had purchased at a grocer, and requesting my immediate attendance. I accompanied the messenger to Stinson's house.

The patient was about forty years of age, dark complexion, slightly intemperate in his habits, had been married seventeen years, with issue, and had previously never been affected with any serious disease. He told me that his bowels had been relaxed, and gave me this as a reason for having taken the salts. He expressed his conviction of approaching dissolution, and desired that the salts should be examined. He was constantly moaning, and complained of burning heat at the scrobiculus and stomach and pharynx, his face was flushed, expressive of intense suffering, and swollen, his voice was husky, deglutition painful, constant vomiting of bloody mucus with other contents of the stomach. He had many evacuations mixed with blood, and finally dysenteric; complained of dysuria, and the catheter produced a scanty discharge of bloody urine; pain on pressing epigastrium; extremities cold; clammy diaphoresis; pulse small, senses perfect, and heart's impulse weak. Staff Surgeon J. Mair, M. D., who was in attendance, informed me that at 10 o'clock, A. M., he found the patient as I have described, and upon inquiring the cause of his illness he had been told that it was consequent upon taking, a short time before, two ounces of epsom salts mixed with beer, and a portion of the salts were shewn to him and Dr. Carson who had also been sent for. Tasting and inspecting these they had considered them pure Crystals of the ordinary Sulphate of Magnesia of commerce; they had then administered olivum freely, from the impression that the medicine might have produced severe symptoms from having been swallowed imperfectly dissolved in beer; chalk was then given as an antidote



to oxalic acid. After my arrival, stimuli were exhibited, upon the grounds that the symptoms might be accounted for from the salts having been taken on an empty stomach, excessively irritable from a recent debauch. These modes of treatment proving ineffectual, we suspected the symptoms to be caused by corrosive poison, and the whites of eggs, with copious draughts of milk were ordered. The debility, and other symptoms increased, and the patient expired in about twelve hours from the time he had taken the epsom salts.

*Sectio cadaveris thirty-six hours after death.*

The body was about the medium stature and muscular; countenance unaltered since death, lips red. The tips of the ears and the nails were livid, abdomen depressed. The thoracic viscera were unaltered, and the heart and its membranes presented no lesion, there was a slight transparent adhesion of the pleura at the apex of left lung. Viewing the contents of the abdomen in situ, the liver appeared paler than usual, and its structure was softened. The gall bladder distended with bile. The peritoneal coat of the stomach was vascular and livid, in some places a dark patch at the greater curvature, the trunks of the vessels here were filled with dark blood. This organ was diminished in size, and contracted near the pylorus, where it felt much thickened. The peritoneum was much injected; the portion investing the intestines had a pink blush, becoming darker at the sigmoid flexure with livid spots interspersed upon the ileum, small intestines, and left curvature of the colon. The omentum was vascular, the bladder shrunk. A livid streak extended along each side of the tongue, the papillae at its base were enlarged, the mucous lining of the labium inferius was darkened, softened, and corroded. In the pharynx at the angles of the cricoid and thyroid cartilages were dark spots resembling effused blood beneath the epithelium, which was abraded and easily torn off; the inner surface of the epiglottis and trachea appeared inflamed. The stomach was carefully removed and opened along the lesser curvature, the contents measured about 3iv. of a greyish brown colour. This viscus was much inflamed at the cardiac extremity, the mucous membrane extending from this orifice to the centre of the greater curvature was softened and easily removed; of a bronze hue, interspersed with stellated patches coloured dark red. At the pyloric extremity of the inferior curvature, we found a space of an irregularly oval shape, about six inches in circumference, very much altered and disorganized, the central part of an ash colour, corrugated, with a dark olive margin. The intestines were cut open and their contents preserved; dark spots were observed in the colon, at the caput coli, and in the ileum. The intestinal mucous membrane was highly injected throughout, and the duodenum inflamed.

We carefully secured the stomach, contents of the stomach, and of the intestines, in bottles sealed and labelled for further examination, and an inquest which had been summoned, returned a verdict of death by poison.

The bottles with their contents were sent with a trustworthy person, furnished with letters of transmission, to be minutely examined by the professor of chemistry, in the University of King's College, Toronto, who, after a careful analysis, was enabled to obtain globules of mercury. Coupling this with the appearances post mortem, he, with his colleagues certified that death was caused by corrosive sublimate. Upon the receipt of this document, a second inquest was summoned by the coroner, Dr. Raymond, and after three days deliberation and investigation, the jury pronounced the following verdict:—

The deceased Samuel Stinson died from the effects of poison, administered to him in a dose of epsom salts, by his wife, and that Henry Byron *alias* Holmes, was an accessory before the fact.

The parties suspected, were tried at the Niagara District Court House, and acquitted, from insufficient evidence of the fact of the poison having been mixed with the draught, by the female prisoner. On the trial, it was proved that Stinson's wife had been living in adultery with Byron, for some years. Portions of salts had been taken by several individuals, from the same package, without causing any unpleasant consequences, and it was shown that no one but his wife had access to the dose from the time it was purchased until it was taken.

(We give insertion to the above, at the request of Dr. Mack. It is certainly a case which portrays in a most vivid manner, the imperative necessity of a knowledge of chemistry to every medical practitioner. An acquaintance with the laws of that science, would, in a minute, have afforded the means of detecting unequivocally the nature of the poison swallowed, and have indicated the antidote.—Eds.)

ANALYSIS OF THE TUSCARORA SOUR SPRING,  
NEAR BRANTFORD.

By HENRY CROFT, Esq., Professor of Chemistry, King's College Toronto.

A very remarkable spring is situated near Brantford, it is called the Tuscarora Sour Spring, and is exceedingly interesting from its containing free sulphuric acid. Such Springs are very rare, and I will briefly notice the information which I have been able to procure concerning those already known.

Bergman mentions a mineral water at Latera, near Viterbo, in the Ecclesiastical States, which is remarkable for containing free sulphuric acid. Another similar one exists at Selvena, near Siena.

When Humboldt visited the town of Popayan, and ascended the volcano Puracé, which was close to it, he found a considerable stream at the height of 8136 feet, which there forms three large cataracts. The water is so strongly impregnated with sulphuric, and hydrochloric acids, as to cause the spray from the cataract to have a disagreeable effect upon the eyes of persons at a considerable distance. The stream runs into the river Cauca, and kills or drives away the fish for several miles down. The sources of this stream lie at the height of 11,200 feet, and it is called by the inhabitants the Rio Vinaigre. The water was analysed by Boussingault and Rivero, and they found in the *litre*—

Sulphuric acid, .....	1.080
Hydrochloric acid; .....	0.184
Alumina, .....	0.240
Lime, .....	0.160

According to the accounts of Leschenault de la Tour, similar streams are to be found in Java.

Professor Daubeny in his report on Thermal and Mineral Springs, says—"Hydrochloric and sulphuric acids in a free state, are found only in Springs connected with volcanoes, to which they are clearly referable."

Before I proceed to describe the experiments as yet made, I must beg you to consider this notice as nothing more than a rough sketch. I hope to be able to visit the locality myself this summer, and to obtain ocular information respecting several points, concerning which I have received very conflicting statements.

The water, as I have received it, is clear and colourless, of a strongly acid taste and reaction. Specific gravity 1.0038, at 60° Fahrenheit.

The addition of a solution of chloride of barium, produces a white precipitate insoluble in acids, showing the presence of sulphuric acid.

Nitrate of silver does not produce the least change.

Ammonia precipitates a reddish brown flocculent substance, sesquioxide of iron, and perhaps alumina.

Oxalate of ammonia added to the filtered solution, gives a white precipitate, lime.

Phosphate of soda, and carbonate of ammonia, added to the solution filtered from the oxalate of lime, gives a slight crystalline precipitate, magnesia.

Sulphocyanide of potassium produces a red colour, showing that peroxide of iron is present.

Ferrocyanide of potassium produces a dark blue precipitate.

Ferridcyanide of potassium produces only a green colour, showing that little or no protoxide of iron is present.

The quantities of sulphuric acid found in three analyses, in one pint, (7680 grs.,) were—

	I.	II.	III.	Mean.
	Grains.	Grains.	Grains.	Grains.
Sulphuric Acid, ...	21.630	23.597	22.049	22.125
Sesquioxide of Iron	4.070	3.831	...	3.950
Magnesia, .....	...	...	...	1.584
Lime, .....	...	...	...	3.685

One other experiment gave the lime much higher, viz., 7.68, which is probably incorrect.

No experiments have yet been made to detect alkalis, nor to determine whether alumina be present or not.

The water, therefore, contains a considerable proportion of free sulphuric acid; for if we calculate the quantity required to neutralise the bases, we shall find that it does not amount to much more than half the quantity found. It is apparently owing to the presence of this acid, that the water has been found to be serviceable as a medicine.

The presence of sulphuric acid in Springs, arising near active or extinct volcanoes, such as those in Java and South America, may be easily accounted for, but in the present case it would appear as if the acid were produced by the slow oxidation of some sulphuret of iron. If such were the case, sulphate of the protoxide of iron would be first formed; this by exposure would be converted into the double sulphate of the protoxide and sesquioxide of iron, and sesquibasic persulphate would be precipitated.

A red substance is said to abound near the Spring, and should this prove to be the above salt, the foregoing explanation would be rendered probable.

The analysis of this substance, as well as a more careful examination of the water itself, and the gases contained in it, will form the subject of a second communication.

[Mr. Dr. Rotterdam has announced that this spring water contains *antimony*. We beg to call Professor Croft's attention to this; we made unavailing attempts to get possession of some of this water some years ago for analysis.—A. H.]

Toronto, April 1846.]

*Report of the Pennsylvania Hospital for the Insane, for the year 1845. By THOMAS S. KIRKBRIDE, M.D., Physician to the Institution. Published by order of the Board of Managers. Philadelphia, 1846.*

"The Pennsylvania Hospital for the Insane" is another of those magnificent institutions, for the reception of insane persons, which proclaim in loud language the philanthropy of the Americans in this respect. It is, in reality, a branch of the Pennsylvania City Hospital; into which, in the city of Philadelphia, insane persons were formerly admitted. This hospital was founded in the year 1752, but in 1841, a new building having been erected for their separate accommodation, about two miles west of the city, the insane were removed into it. It appears that, before the separation alluded to, 4336

insane persons had received treatment; and the present report, after briefly alluding to the particulars connected with the patients admitted during the last year, contains some important statistical information, based upon the whole number of cases admitted since the year 1841.

At the date of the last report there were 151 patients in the Hospital; and there were admitted during the year 177, giving us the number of 328 who had received the benefit of treatment. Of these 159 have been discharged or died, leaving 169 under treatment at the commencement of the present year. The discharges are thus accounted for, cured, 80; much improved, 5; improved, 24; stationary, 30; died, 20=159. This mortality, although high, amounting to 1 in 8 <sup>17</sup>/<sub>20</sub> is accounted for by the unusually great number of patients admitted, labouring under organic disease.

One of the chief characteristics of the present century is the superior treatment of insanity—in the abolition of those modes of restraint which were formerly so much in use, and which have been too frequently the means of perpetuating a calamity in an unfortunate individual, which a milder treatment would most probably have mitigated, if not entirely removed. The striking benefits resulting from this absence of restraint, cannot be more forcibly depicted than in Dr. Kirkbride's own words:—

“In reference to the admissions of the past year, I may remark, that in addition to the greater number of individuals labouring under organic disease, already referred to, there have also been many, curable and incurable, who while at home, had been subjected to peculiarly rough and violent means of restraint, supposed to be necessary for their own safety or that of the community. On not one of these, after reaching this hospital, has there been the least restraining apparatus of any kind. In numerous instances those who at home had been heavily ironed—whose movements had been limited to the extent of the chain which secured them, and who were shut out from every thing likely to soothe their malady—before they had been in this Institution more than a few weeks, were to be seen during the day, usefully employed in the garden, about the grounds, or in the workshop, and in the evening, quietly reading or listening to the reading of others in comfortable parlours, engaging in different kinds of amusement, or attending lectures or parties.

“The number of this class has been gradually increasing each year since the opening of this hospital, and particularly from the more distant parts of our own commonwealth. It is another proof that our Institution is becoming better known, and the true character of well-regulated hospitals better understood. It is a proof, too, that a healthful feeling begins to pervade the community, which will not, as heretofore, permit any class of our afflicted fellow-beings, to be subjected to forms of treatment often far worse than that given to the idle pauper or even the abandoned felon.

“Many of these cases have returned home perfectly well, and each one that does so, effects more in enlightening a whole neighbourhood than volumes of essays or scores of statistical tables. It is an argument which none can resist.

But we have already remarked that a very important part of the report is occupied by the statistics of the ad-

missions of the last five years; viz., the years 1841, '42, '43, '44, and '45. These results are valuable, and appear to be well worthy of record. It is impossible for us, however, to follow the author of the report through all the tables which he has furnished; we shall make such selections as appear most valuable.

The total number of cases admitted for the five years was 769, being 447 males, and 322 females; the age of more than the half of whom was between 20 and 30; the number being 274; and this ratio is consonant with general experience. The general results, as far as age is concerned, are thus given:—

The number of persons becoming insane, when between twenty and thirty years of age, is shown by the records of all our institutions, to be much greater than during any similar period of life. For example, between ten and fifteen, we had but eleven admissions, between fifteen and twenty we had eighty, making ninety for the ten years; while between twenty and thirty, three hundred and thirty-four are reported; between thirty and forty, one hundred and sixty-seven; between forty and fifty, one hundred and thirty-four; between fifty and sixty, thirty-nine; between sixty and seventy, ten; and between seventy and eighty, four. It must be remembered, however, that the number of persons in the community between twenty and thirty years of age is actually greater than of either of the other ages designated, except between ten and twenty. Insanity is obviously of rare occurrence before fifteen; we have never had a patient here under ten, and the youngest case of the disease I ever had under my own care, was eight years old, although it does sometimes occur earlier in life, and well attested cases are reported by writers of its existence even in infancy. Between fifteen and twenty, many cases are seen, but after twenty their frequency is much greater.

With reference to social condition, the results are as follow:—

	Males.	Females.	Total.
Single . . .	269	136	405
Married . . .	152	139	291
Widows . . .	—	47	47
Widowers . . .	26	—	26

Other tables are given, in which the influence exerted by occupation, by supposed causes of the insanity, by the ages at which the disease supervened, &c., &c., are exhibited, but the results of these we pass over, for the purpose of examining the statistics of the mortality at this institution; and we glean these general results from tables constructed for the purpose of exhibiting the *monthly* mortality, discharges, and cures, during the period over which the observations extend:—

	Admissions.	Discharges.	Cures.	Deaths.	Ratio of deaths.
1841	176	61	30	9	1 a 19.55
1842	123	120	60	12	1 a 10.25
1843	140	126	68	17	1 a 8.23
1844	153	134	75	12	1 a 12.75
1845	177	159	80	20	1 a 8.85

Giving us a mean ratio for the five years of 1 a 11.92, or a per centage of 8.38. The recoveries for the respective years are severally 1 a 5.86; 1 a 2.6; 1 a 2.05; 1 a 2.04; 1 a 2.21; yielding an average of 1 a 2.93, or 34.12 per cent.

The average cost of each patient per week during the five years was \$3.85; \$4.44; \$3.88; \$3.64, and \$3.47½, affording an average of \$3.85 for each patient; omitting, in our calculation, the fractional part of a cent.

With reference to the varieties of insanity, in its different types, the following table affords a summary of the prevalence of the disease at this Institution in its several forms. The observations again extend over five years:—

*Showing the forms of Disease for which 769 patients were admitted.*

	Males.	Females.	Total.
Mania . . .	208	165	373
Melancholia . .	82	61	143
Monomania . .	76	52	128
Dementia . .	76	43	119
D. lirium . .	5	1	6

We may observe that no cases of mania a potu, or delirium tremens, are admitted into this institution—such cases being referred to the parent institution in the city of Philadelphia.

We regard the report as a really valuable document, affording evidence of the sound views, the industry, and judgment of the author.

*Twenty-eighth Annual Report of the Physician and Superintendent of the McLean Asylum for the Insane, to the Trustees of the Massachusetts General Hospital. By LUTHER V. BELL, M.D., Physician and Superintendent. January 1st, 1846.*

This is a report from another of those valuable institutions for the Insane in the United States. It is the third with which we have been favoured, and is characterised by clear and sound views of the peculiar treatment to which this class of patients should be submitted.

It appears from the report, that 271 patients have received the benefit of the Institution during the past year, 139 of whom were males, the remainder females. Comprised in the above number are 119, 64 males and 55 females, admitted during the year, leaving 120 inmates at the date of the report.

The following is a recapitulation of the discharges:—Recovered, 74; died, 13; removed by their friends, 33.

Dr. Bell's views of the propriety or impropriety of restraint are thus detailed:—

“Among modern attempts to improve the management of the Insane in Great Britain, the disuse of all measures of muscular restraint takes a prominent place, and has in its various aspects and relations, been the

topic of much valuable and much discreditable discussion in that country. My views in regard to the inexpediency of laying down the abolition of restraints of this description, as an invariable law in all institutions, and in a country like ours, where no popular sentiment, originating in abuses, demands such a course, have been fully presented in the reports of former years. No reason has presented itself, as these measures have been matured and tested by time, for any essential change of opinion, although I am willing to admit that it has been found expedient to make the exceptions to a general rule of this kind, far less numerous than formerly would have been believed practicable, in an institution having always a ratio of active cases so much greater than the foreign hospitals, and in a country where the type of disease, on an average, is so much more intense than in Europe.

“Personal exchange of opinion with many of those abroad, who have identified themselves with this measure, has led to the conviction that the differences of views for and in opposition to the rule of non-restraint, have not been so wide and irreconcilable as they would appear to be in a controversial contest, to an unimpassioned searcher for truth. No practical man there would probably be found who would wish to go so far as to say, that there is no case in which muscular restraint might not be the wisest and kindest measure to be adopted. The sentiment appears to be rather this: that the dangers of occasional unfortunate results from omitting restraints to the insane hitherto thought to require them, are less on the whole than the objections to their use and the hazards of abuse, if employed by delegated authority, as must be the case in the extensive foreign hospitals, if they are used at all.

“In the last annual report, the results of the efforts here to bring the use of restraining measures to a smaller limit, were presented. It was there stated that during the three quarters of the year, after a memorandum of the fact was entered, only a single application of restraint was made on the male side of the house, viz., a muff to the hands of a man afflicted with a violent propensity to destroy his eyes, and in a few instances to females. During the present year, a continuance of the same memorandum affords the gratifying information, that a single patient only has been placed under any restraint of this kind, and that to guard against the hazard of self-destruction, which the ordinary means of watching by the presence of an attendant were not adequate to prevent. An epileptic young man has, at times, sat in Dr. Rush's tranquillizing chair, (an arm chair with a board across the front,) to prevent sudden falls.

“While thus able to present almost a clear page as regards restraining measures, I do not recede from the views formerly expressed of the inexpediency of a dogmatic or exclusive rule, especially if that rule is to be known by patients as a law of the institution, and mischievous advantage taken of it, which as I found, was a source of great inconvenience in the institutions of Great Britain. Yet I do not believe that the use of restraining measures to control the muscular movements of patients in this institution, will probably ever exceed two or three cases per annum.”

The total annual expense of the institution for the

year, including the salaries of the officers, &c., was \$26,104, giving an average weekly expense to each patient of \$1.8, which appears to us remarkably low, when compared with that of the sister institution of Pennsylvania.

*The Illustrated Botany*, edited by John B. Newman, M. D., comprising the most valuable native and exotic plants, with their history, medicinal properties, &c.; to which is added an introduction on Physiology, and a view of the Natural and Linnean systems. Vol. 1—Nos. 1, 2, & 3. Published by J. R. Wellman, 118 Nassau Street, New York.

This is designed to be a popular work on Botany, and judging from the specimens before us, it appears to be in the hands of a gentleman every way qualified to fulfil what he has undertaken. Along with a botanical, historical, chemical, medicinal and popular account of the plants, to which is superadded the peculiarities of their cultivation, there is given in each number four or five plates, each containing a group of those treated of, and which are coloured in a most exquisite and highly finished manner. These alone are worth the whole price of subscription. The work not being a purely scientific one, but, if we may use the term, a mixture of scientific and literary, all criticism on it as a scientific production, exclusively, is disarmed. In a literary point of view, however, it has high merit, and both its literary and scientific character are so harmoniously blended, the *dulce* with the *utile*, as conjointly, with the artistical execution, very highly to recommend it to general favour. It is published monthly, at three dollars per an.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON SULPHURIC ACID AS A REMEDY FOR POISONING BY LEAD.

By J. HENRY BENNET, M. D.

*Licentiate of the Royal College of Physicians, London; Obstetric Physician to the Western General Dispensary; etc. etc.*

In the Foreign Department of the *Lancet* for last year, (vol. i. p. 607,) there appeared an article by M. Gendrin, the celebrated physician to the Pitié Hospital, Paris, on the preservation of the health of those who work in lead and its preparations. In this article, it is asserted that sulphuric acid not only preserves the workmen who take it from the diseases which follow the absorption of lead into the system, but that it is also a curative remedy of great energy and efficacy in the treatment of these affections. From its being known to many persons that I was long the pupil and house physician of M. Gendrin, I have been often questioned on the subject, and this has induced me to present the following remarks.

The opportunities afforded by the hospitals of Paris for the study of the diseases occasioned by the introduction of lead into the human economy are considerable, owing to there being in that city several large manufactories of the oxides and salts of lead; and owing, also, to a great number of cases being continually furnished by various trades in which lead or its preparations is used, such as shot and printing-type

foundries, potteries, china and crystal works, house-painting, black-dyeing of horsehair stuffs, glazing of visiting cards, &c. During the last few years, the attention of various French pathologists has been much directed to saturnine diseases; and, thanks to the facility for research thus afforded, much has been done to increase our knowledge of their causes, symptoms, and progress. The therapeutics of saturnine affections, however, have not improved so rapidly in their hands as their pathology, which is the more to be regretted, as the truly important discovery of M. Gendrin, with respect to the value of sulphuric acid as a therapeutic agent, has not met with that cordial reception to which it is justly entitled. M. Gendrin's views were, in fact, received with decided hostility by several of the physicians who, by their researches, have connected their names with these diseases—a circumstance which has tended to retard the general adoption of the remedy that he was endeavouring to introduce into practice.

M. Gendrin was first led to try the administration of sulphuric acid in colica pictonum, by the success which he found to follow the administration of alum. This substance has long been used in the treatment of lead colic, especially, I believe, in Germany; and was tried and much talked of in Paris about twenty years ago. Finding it succeed, M. Gendrin concluded that the active agent was probably the sulphuric acid, and on administering it alone, he found himself correct in his surmise. It was in 1830 that this occurred, and since then he has treated by sulphuric acid alone between four and five hundred cases of saturnine disease, in all the forms under which that affection is susceptible of manifesting itself, and with nearly invariable success;—the only exceptions being, if I am not mistaken, a case or two in which the patient died of cerebral or epileptic phenomena before the treatment was well commenced; and a few cases of incurable paralysis, the result of repeated previous attacks.

During the three years that I was with M. Gendrin, I saw a vast number of cases of lead colic; we had, indeed, nearly always two or three men thus affected in our wards, sent from the carbonate of lead manufactory at Clichy. All of these cases were treated with sulphuric acid, and I do not recollect having seen one in which the disease proved refractory to the treatment adopted,—a case or two of confirmed chronic paralysis excepted. The duration of the treatment, as far as I can collect from my notes, was about three days in slight cases, and six or seven in severe ones. The sulphuric acid was given, largely diluted with water, (forty-four drops to a pint of water;) two or three pints being administered in the twenty-four hours. The amount of pure strong acid taken in that time was, therefore, from one drachm and a half to two drachms. Sometimes the sulphuric lemonade, as it was familiarly called, was vomited as soon as ingested. Still, when this was the case, the patient was made to persevere in its use, and the stomach soon became accustomed to the acid, and retained it. When it was retained, the abdominal pains generally began to diminish after the first, second, or third day, the constipation soon giving way naturally, after they had become less intense. In all these instances, not a grain of any kind of medicine was given besides the sulphuric acid, nor was an enema used, the sulphuric acid being the only medicinal agent resorted to, if we except baths.

At the commencement of the treatment, a sulphur bath was given to the patient, the result of which was, that the sulphur, combining with the particles of lead that were on the skin, formed a black sulphuret. The amount of lead, which is thus discovered to encrust, as it were, the skin of those who have worked at preparations of lead, is nearly incredible. I have often seen men go into the sulphur bath quite white, and come out nearly as black as negroes. The lead lying on the skin having been thus made visible to the naked eye, the patients were supplied with a hard brush

and half a pound of soft soap, and made to scrub themselves daily in a warm bath, until all the black sulphuret had been brushed off. The sulphur bath was then repeated, the sulphuret of lead brought out, brushed off, and the process renewed, until it no longer rendered visible any trace of lead.

This precaution is indispensable with all who labour under saturnine disease, if we wish to ensure patients against relapse. Whilst at the hospitals of La Pitié and Saint Louis, I have repeatedly had patients under my care with lead colic, who had been discharged as cured from other hospitals a few weeks previously. The sulphur bath, which exhibited a thick coating of lead on the skin, explained at once the cause of the relapse. Indeed, the presence of this coating of lead on the surface of the body is, no doubt, the principal cause of the relapses which are mentioned by authors as occurring so often in these diseases. The lead which thus lies on the surface is gradually absorbed, and, at last, poisoning having again taken place, all the symptoms to which it gives rise are manifested. No patient who has suffered, and been treated for lead colic, can be considered safe unless he has gone through the ordeal of a sulphur bath, with a perfectly white skin. One of the great advantages of repeating the sulphur bath during the treatment is, that the patients, whom it is easy to convince of the importance of getting rid of the metallic poison when they see it plainly on their bodies, rub with real good will.

The mode in which the acid acts in neutralizing the poisonous effects of the lead is easy to explain. It combines, no doubt, with the lead in the tissues, and forms with it an insoluble sulphate or sulphuret, which is consequently inert, and is gradually eliminated from the economy. This is the interpretation adopted by M. Gendrin, and it appears rational enough.

Some of M. Gendrin's opponents have asserted that it is not by the sulphuric acid that he cures his patients, but by the sulphur baths which he simultaneously uses. I attach great importance, as does M. Gendrin, to the sulphur and warm baths, for the reasons given above, but I do not think that they are the active agents in neutralizing the effects of the mineral poison contained in the economy. This opinion, moreover, is founded on the results of my own experience. Whilst at Saint Louis, I saw some half dozen cases of colica pictonum treated by sulphur and alkaline baths alone, by one of the physicians to that hospital, who believed that this treatment was sufficient to effect a cure. The patients were under my charge, so that I had every possible opportunity of observing them. They got well, it is true, but after very long and protracted suffering. In one instance, the constipation lasted ten days, and at one time the symptoms assumed quite an alarming aspect. The result of the treatment (or absence of treatment) in these cases, satisfied me that sulphuric acid, given internally in saturnine disease, is really a most powerful therapeutic remedy, and that, in the cases in which I had previously seen it administered, the patient did not get well by means of the use of baths, or through the sole efforts of nature, but owing to the therapeutic agency of the sulphuric acid.

The treatment still resorted to by the greater number of the Paris physicians is a combination of purgatives and opiates. The singular series of purgatives, known under the name of *traitement de la Charité*, is yet followed by many. I have repeatedly seen these modes of treatment tried, both in private and in hospital practice, and always, it has appeared to me, with a less satisfactory result than when sulphuric acid alone is exhibited. Indeed, my confidence in the therapeutic powers of this remedy is so great, that I never think of using any other when called upon to treat a case of lead colic. The simplicity of the treatment certainly much enhances its value. Nothing can be more troublesome and more trying to the patient than the continued

medicine and injection taking which many practitioners consider themselves bound to prescribe. The duration of the treatment being, also, evidently shorter under sulphuric acid than when purgatives and opiates are resorted to, from the poison being sooner neutralized, there is less danger of the patient falling a victim to those frightful cerebral epileptic attacks, which constitute one of the chief dangers of saturnine diseases.

Not only is sulphuric acid a most valuable therapeutic remedy, but it has also proved an equally valuable preservative agent, which is the case with no other preparation. At the carbonate of lead manufactory of Clichy, M. Gendrin prevailed on the directors to insist on the workmen drinking every day one or two glasses of the sulphuric lemonade, and also washing themselves well, daily, with soap and water. It was found that these precautions enabled them to work with impunity for many months, although without them a few weeks' labour in the manufactory sufficed to bring on an attack of the lead colic. This result is one of extreme importance, both to the workmen and to the manufacturers. At the establishment mentioned, (that of Clichy,) a very large proportion of the workmen are invariably attacked with these symptoms of poisoning, in from three to six or eight weeks after their entrance. This fact being generally known, no workman will, or indeed can, labour regularly at the manufactory. Its population is entirely composed of men who have been out of work until they have exhausted all their resources. Scores of times have my patients at La Pitié said to me, "I knew, Sir, that I should fall ill in a few weeks, but what could I do? I was starving." Such a state of things, on the other hand, is extremely prejudicial to the manufacturers themselves. Their works are often at a stand for want of hands; the workmen whom they do obtain are inefficient, from ignorance of the processes that have to be gone through, and no sooner do they acquire a tolerable acquaintance with their duties than they fall ill, and are obliged to go to the hospital.

The use of the sulphuric lemonade alone is not sufficient to guard against the appearance of the disease, although it will retard it; the skin must be well and daily cleansed. Indeed, it would be well if a sulphur-bath were used occasionally, in order to demonstrate the state of the skin. The facts which I have already mentioned prove that absorption of lead, and of its preparations, by the skin, is one of the principal means by which the economy becomes poisoned—a fact which has been denied by several pathologists.

On some future occasion I may trouble my readers with a few remarks on the pathology and symptoms of saturnine affections. For the present, however, I shall conclude this short article by expressing the hope that it may be the means of inducing, on the one hand, medical practitioners in this country to try sulphuric acid in the treatment of lead colic, and, on the other, manufacturers of the salts of lead to test its efficacy as a preservative.—*Lancet*.

## MEDICAL JURISPRUDENCE.

### MEDICAL PRACTITIONER INDICTED FOR MANSLAUGHTER.

At the recent assizes, held at Stafford, Mr. Dickenson, a medical practitioner, residing at Bilston, was indicted for the manslaughter of Mrs. Hickman, the wife of a respectable farmer, whose death it was alleged, he had occasioned, by want of due skill and care at the time of her confinement.

From the evidence, it appeared that the deceased, a young woman in the prime of life, was unexpectedly seized with labour pains, whereupon she was supported to her room, and, without being undressed, was laid upon a bed. An old midwife was sent for, who speedily arrived, and assisted at the birth of a child, which almost immediately took place, followed by a considerable



flow of blood from the uterus. In order to stop the discharge, the old woman applied cold wet cloths to the abdomen of the patient, and thus, for a time, caused the hæmorrhage to cease; but as several symptoms manifested themselves, which alarmed her, she despatched a messenger for Mr. Dickenson, who resided about a mile and a half from the spot, and who arrived without a moment's delay. Upon his entering the room, the quantity of blood which the poor woman had lost was pointed out to him, and he proceeded, as is usual in such cases, to ascertain the position of the placenta. After some manual investigation, Mr. Dickenson succeeded in withdrawing from the vagina a good deal of coagulated blood, together with what he maintained to be the greater part if not all, of the placenta. On the arrival, however, of Mr. Best, another medical man, whose services had also been put in requisition, he was shown the vessel containing the above discharge, and after examining it, he said to Mr. Dickenson, "You do not call that the after-birth, do you?" Mr. Dickenson replied, "Yes, it is." Mr. Best rejoined, "Now I will show you the after-birth." He almost immediately brought into view a sanguinous mass, observing, "There is the after-birth." At the same moment the patient, who had evidently been for some time previously in a sinking state, her forehead covered with cold perspiration, and her pulse indicating great debility, uttered a loud shriek, as if the operation she had undergone had occasioned considerable pain. In little more than an hour after this she expired.

The exact nature of the case does not appear, and no post-mortem was allowed; but it is preposterous that a medical man should ever have been placed at a bar of justice under such circumstances. The friends of the patient should have blamed themselves for entrusting the woman's life, to an ignorant midwife, when they were evidently in a station of life to pay for proper medical attendance. The woman would possibly have been now alive had Mr. Dickenson been called in, in the first instance. The evidence respecting Mr. Best's behaviour was most extraordinary; if blame attaches to either, it would be to him. There appears some doubt whether coagula or the placenta had not been improperly removed; but we entirely concur with the remarks of Mr. Baron Platt, in which he passed a deserved eulogy on the profession, and insisted on a certain amount of discretion as to the impropriety or propriety of any doubtful practice to be exercised by the qualified medical man. Otherwise, he observed:—

"We should none of us gentlemen, if that were not the case, have the benefit, in a variety of emergencies, of the services of that profession to which we are often so greatly indebted; and the promulgation of the doctrine that medical men are criminally responsible for following the dictates of their matured judgment, might have the effect of preventing surgeons and others from acting with that confidence and boldness under peculiar circumstances, to which the preservation of life and limb is often due. There are numerous cases in which the judgment of medical men must be relied on; and if the works of the most able authorities of those whom I may justly term the sages of the profession, are not to be relied upon, I know not what guidance would be left for the direction of medical practitioners at large. It would, indeed, be a monstrous thing to say that the conduct of the gentleman now under deliberation evinced either gross ignorance or gross negligence. I can, in fact, hardly leave it to your consideration. It is, indeed, possible, that the manipulation of the witness now in the box (Mr. Best) may have caused the death of the poor woman. We should, therefore, take the greatest care that we are in the right before we convict a gentleman in Mr. Dickenson's position of such an offence as manslaughter, and brand him with an imputation which may not only injure, but ruin, his character and his prospects."—*Lancet*.

#### POLICY OF LIFE INSURANCE VITIATED BY CONCEALMENT OF HERNIA.—DIAGNOSIS OF HERNIA.—MEDICAL EVIDENCE.—MEDICAL ETHICS.

*Ashby and Others, Executrix, &c. v. Bates.*

This was an action, at Midland Circuit, Northampton, against the Argus Insurance Company upon a policy for the sum of £500 upon the life of Richard Ashby, farmer at Rugbrook, lately deceased. The first plea alleged that it was untrue that he had not rupture or any disease tending to the shortening of life, concluding with a verification; second plea, fraud.

Mr. Whitehurst proceeded to open the case for the defence. The insurance was effected in April 1844, the deceased being then 63 years of age. Before this could be effected, it was required as

usual that three papers should be signed—one by himself, one by his usual medical attendant, and one by a friend, not being a relation or interested in the policy, and that he should be subjected himself to an examination by a medical gentleman named by the office. Each of these papers contained questions put by the office as to the general state of health of the party, and as to his being, or having at any time been, the subject of any one of several enumerated maladies, among which was mentioned rupture, or any other disease or affection tending to shorten life. All these answers distinctly denied the existence of rupture then, or at any time previously, or of any other disease or affection tending to shorten life, and was satisfactory to the office, who then named Dr. Robertson, Physician at Northampton, as the gentleman to examine him, who accordingly did so in the manner described in his evidence, and wrote to the office, describing the party as being, to all appearance, hale, hearty, and robust, with a slight tendency to apoplexy, broad shoulders, and rather a short neck, but nothing particular, and stating that he thought that it was a life they might take. The policy was then granted, at a premium of £34. The paper signed by the deceased, and dated the 3d of April, 1843, contained these words: "I declare that all that is stated or contained herein is true; and I agree that this declaration shall be the basis of the contract." In May, 1845, the Company were informed that he was dead, and, upon making inquiry, it appeared that he had died of strangulated hernia; and it further appeared that the Company deemed it their duty to resist the payment, and defend this action.

Dr. A. Robertson called.—Has been between twenty and thirty years a physician in this town, and is physician to the infirmary here. At the request of the office, examined the deceased in the month of April, 1843, in the same mode in which he was always used to examine. He described this mode. He began with the head and proceeded downwards to the heart, lungs, and other viscera, and so on until he came to the lower part of the belly. He then asked them if they had any rupture or any thing unusual in those parts, cautioning them most carefully to conceal nothing from him, and warning them that if they did, it would vitiate the policy. If they answered explicitly "No," why then he proceeded no further. The deceased answered no, "No, nothing of the sort." If he had told him about his having been to another medical man to consult him about a swelling, of course he should have examined the nature of it. There might be particular circumstances of complication and difficulty in hernia, but, as a general rule, he should say that it was very easily distinguished from any thing else.

Cross-examined.—Should say that no careful and well-informed medical man could mistake hernia. Varicocele was a swelling of the veins of the spermatic cord. It did not dilate upon coughing. The test of hernia was by taking hold of the swelling, and making the patient cough, which caused it to protrude. It had a tendency to protrude. When large, it swelled upon coughing. Did not agree with Sir A. Cooper, in his treatise on Inguinal Hernia that "varicocele was more frequently than any other disease mistaken for omental hernia." Hernia, when irreducible, is not always immediately dangerous, but might become so at any hour of any day. Any exertion might produce strangulation. Always told a man with irreducible hernia that his life was in perpetual jeopardy. Swelling of the testis could not be mistaken for it. Where a person died after an operation for hernia, its being of long standing would usually be indicated by the adhesions. Knew that he was blind and paralytic before his death. Thought that it was possible, but not likely, that a person might have hernia come on from taking three strong emetics one after the other. Knew that Mr. Lawrence had written that the action of the respiratory organs, as in vomiting or straining downwards, might produce it. Had never met with it from evacuation, upwards or downwards. Hooping-cough might cause it in infants. Did not know about its being common in cavalry regiments, or that riding on horseback was likely to produce it. It was more frequent with sailors who never rode at all. Mr. Mash, the house-surgeon of the infirmary, performed the operation. Any degree of adhesion between the hernia and the sac would indicate that it was of long standing, but there being no adhesion did not shew that it was not of long standing.

Dr. Charles Kerr.—has been a physician at Northampton twenty-three years, and thirty in the profession. Mr. R. Ashby came to him on the 13th of November, 1843, to consult him about a swelling in the lower part of the abdomen. Examined the part with considerable care. The scrotum was very large. Found



there was a hernia, and made endeavour to reduce it unsuccessfully, till he thought it imprudent not to desist. Examined him as to his general health and found it very good. He was full and robust. He told witness that it had been coming for a considerable time. Told him to come again in a fortnight. Made a second examination on the 9th Dec. 1843. Endeavoured to reduce it (the hernia), and took considerable pains, but it was quite ineffectual. It was what is commonly called an irreducible hernia. Had no doubt that he mentioned to him that it was rupture or hernia. Saw him in December 1844 for quite a different disease—neuralgia. Had no doubt whatever that what he had spoken of was hernia. It was possible that it would be mistaken, as eminent men had mistaken it. Had as perfect a conviction as he ever had in surgical practice that it was a plain case of inguinal hernia. There might be complicated appearances in certain cases. This did not appear to be one of that kind. The swelling was very large, about the size of his two fists, and of a different character to a sac having fluid in it (hydrocele). If a hydrocele were large it would lose the pear shape, otherwise it would be like the shape of a pear with the thick end uppermost; but hernia would never resemble a pear with the thick end downwards.

**Cross-examined.**—If the hernia contained omentum, which he thought it did, it might get thinner, if he got thinner, by absorption; otherwise, if irreducible, as he had stated, it must have remained undiminished in size until he died. Did not think it likely that the hernia could have escaped the observation of a medical man who was putting him into a bath. Could not say that before his death he had mentioned it to Mr. Helston, who was attending him.

Mr. Coulson then gave similar evidence as to the nature and character of hernia, as distinct from hydrocele, varicocele, swollen testis, and affection of the spermatic cord.

This being the case for the defendants.

Mr. Humfrey proceeded to address the jury on behalf of the Plaintiffs, suggesting that physicians were not so well acquainted as surgeons with the diagnostics of a disease so peculiarly surgical, and contending that the malady was an enlarged testis, which the deceased had from his birth, and that the rupture of which he died came on a very few days only before his death, from the effects of three very strong emetics which he had taken one after the other, administered by a Mr. Smith to relieve his total blindness, or from straining at that time in the one way or the other. The learned counsel also urged the resemblance in appearance of both hydrocele and varicocele to inguinal hernia, as accounting for Dr. Kerr having been mistaken; and then called the following witnesses:—

Mr. W. Norton, farmer, knew the late Mr. R. Ashby for twenty-four years before his death; certified for him when he effected the insurance. Knew that he had a swollen testis. Never knew of his having a rupture.

Mr. Helston is a surgeon, and has been in practice fourteen years. Had attended deceased for many years until within five years ago, when he ceased to attend him for two years. In 1844, gave the certificate for the insurance office. Examined him with reference to the questions put by the insurance company. Discovered an enlargement of the left testis, and a thickening of the spermatic cord. Then examined him in the usual way for hernia, by pressure with the hand and by making him cough violently. Discovered no swelling or enlargement of the ring, which is partly muscular and partly tendinous. Continued the examination until he was perfectly satisfied that he was not then, nor ever had been, the subject of hernia. Witness was concerned for seven or eight medical clubs. Always examined the proposed members of such clubs for hernia. It was an important part of his duty. Irreducible hernia could not have existed, as had been described, in November 1843, and been so reduced as when witness examined him. He generally went about on a donkey with a saddle. He always was about his business daily. Attended him in November 1844. From his complaints then, considered at first that it was an apoplectic tendency. He complained of head symptoms, for which he was cupped and leeches, and witness ordered him the warm bath; the usual antiphlogistic treatment. He suffered from piles at this time. Dr. Kerr attended consultations with witness and his partner during the last fortnight before his death. No mention was ever made of hernia by either. He had varicocele, which occasioned the thickening of the spermatic cord. He complained of pain arising from the testis and the spermatic cord

about a fortnight before his death. Then examined him, and there was no appearance of hernia. He was incapable of doing anything, and the women of his family attended him, lifted him in and out of bed, and washed and fed him with bread and milk like a child. This was rendered necessary, partly by paralysis and partly by blindness. He consulted Mr. Smith of Southam, who prescribed three strong emetics, and also some strychnine, all of which he took. The emetics contained a full dose of tartarized antimony. Straining would be calculated to produce hernia. Had witness supposed that he had hernia, he would not have suffered him to take what was so prescribed.

**Cross-examined.**—He died from the consequence of the operation for hernia. Had not seen him for nearly a fortnight before his death in Jan. 1845; did not reduce a rupture which he had (then?) or at any other time. (A letter was then put into his hand, which he said was in his hand-writing.) He again stated that he had never said that the deceased had had hernia. (The letter was then put in and read. It was addressed to Dr. Robertson, the first witness, and stated that the deceased had had a slight hernia about four months before he died, which he had reduced.) He had complained of varicocele, which he had reduced by manipulation. What he wrote in the letter was the falsehood, not what he said to-day. He called varicocele an enlargement of the veins of the spermatic cord. In April 1844, saw the suspensory bandage. He had been affected with that ailment from his birth. He had a tendency to apoplexy. He yet thought it right to order warm baths after he had cupped and leeches him, and applied cold lotions to his head. He occasionally suffered from slight rheumatism, for which, before 1841, he invariably attended him. Came into the room perhaps half an hour after the operation. Was not present, because he was unwell, and had been confined to his bed for several days. The operation was performed in the night, earlier than four o'clock.

**Re-examined by Mr. Humfrey.**—The disease under which the deceased had laboured had existed from his birth, and he did not think it at all important when he signed the certificate. The letter read was in answer to a letter from Dr. Robertson, which was marked "strictly private," and contained a promise that he might rely that his name would not be given up in any way.

Mr. William H. Walker partner of the last witness, attended the deceased professionally for about a fortnight before his death. Met Dr. Kerr there many times in consultation about Mr. Ashby's case. Several times assisted in putting him in the bath. Saw no such swelling as had been described. Thought he must have seen it if there had been such. Was fetched about 4 o'clock the day before his death. He complained of having been sick, and of a sudden violent pain and enlargement of the scrotum, as if something had fallen down. Upon that he examined the part. Asked him if he had ever had an attack of that kind before. He said "Not to my knowledge," but added, that a fortnight previously he had been taken with a violent pain in his bowels, and that Mr. Helston had been sent for, and did something to him; and he soon after became better. He said this particular appearance had happened about an hour previously. He continued very ill, and Mr. Mash was sent for from the infirmary, and attempted with his assistance to reduce the rupture. It was both omentum and intestines. Saw the operation performed by opening the ring with a knife. The cause of strangulation and pain was removed after the operation. He bore the operation very well indeed. Mr. Mash succeeded in returning the whole, but it came down again, though the cause of strangulation was removed. There was no adhesion, and it appeared to witness to be a case of recent date.

**Cross-examined.**—The deceased told him that the fortnight before Mr. Helston had done something which relieved him, but did not mention the word "operate" or "rupture." It was the witness's own conclusion at the time that it might have been for rupture. [This witness here produced a letter which he had received from Dr. Robertson, and which was similar to the one addressed to Mr. Helston, which had happened not to have been brought, and sought information as to the cause of the death. It was marked "private," and gave assurance that the witness might rely that his name would not be given up, or himself brought into any trouble or difficulty. The answer was then called for, produced, and read; and, unlike the answer of the other witness, tallied very accurately with the evidence given by Mr. Helston to-day, as well as with that of the present witness.]

Mr. James Mash.—Is resident house-surgeon here, and has been so for twenty years. Performed the operation. Found strangulated hernia. Would not have given strong emetics. Mentioned in the presence of Mr. Harrison, the clergyman, that it was a very bad case, and that he wished to have some other surgeon sent for. There was old age, an enfeebled constitution, deafness, and partial paralysis. There were slight adhesions at the upper part of the sac. If it had been a case of long standing there would, he thought, have been some changes, which there were not. It might have been the result of a few hours, of a week, of a month, or more. There was considerable inflammation, which would produce adhesion. From what he saw, when he performed the operation, and afterwards, there was nothing to induce him to believe that it was as much as fourteen months old. Had several times known persons sent to the hospital by respectable surgeons for hernia where there was no hernia at all. Had seen many cases which puzzled him to know hernia from other diseases affecting that part. Upon returning the omentum and intestine, observed that there was an enlargement of the left testis. Had on one occasion himself returned all the omentum and intestine, and afterwards discovered a hydrocele as big as his fist. Enlargement of the testis sometimes accompanies hydrocele.

Cross-examined.—It perhaps might be his first and natural conclusion, if he saw a hernia as large as his two fists come down suddenly, that there had been a former hernia reduced, which had come down again. Supposing that the man had this affection of the testis from his infancy down to 63, he should not have thought it of consequence. If it (the hernia) had come down a fortnight before and been reduced, it might account for the size. With the stricture which he found, there could not have been a hernia as large as two fists reduced by being drawn up, or without recourse to the knife.

Mr. William Williams, surgeon.—Cases of hernia may be and have been confounded with hydrocele and varicocele.

Mr. Frederick Cox.—Has been a surgeon for nine years, at Welford. Never heard of an irreducible hernia of the size of two fists being spontaneously cured, or reduced without the knife, except under circumstances of great emaciation.

Mr. Robert Marriott Freeman.—Hydrocele of the sheath might be mistaken for hernia. Was present at the Birmingham Hospital, very recently, when an operation was performed by an eminent surgeon for what was supposed to be hernia in the passage to the scrotum, which turned out to be a watery swelling or hydrocele, with a swollen testis and thickening of the spermatic cord. He had now a case where he had intended to operate six weeks ago for hydrocele, and the patient afterwards came and declined to have the operation performed, as it was all rapidly going away.

Mr. Charles Dodd and Mr. Marshall concurred with other medical witnesses for the plaintiff, as to the disease of hydrocele having been sometimes mistaken for hernia by surgeons, and there being, not unfrequently, great difficulty in distinguishing.

All these last five gentlemen concurred almost entirely with the other medical witnesses for the plaintiff as to hydrocele and varicocele being sometimes mistaken for hernia; but they one and all denied ever having operated under such mistake, though they admitted that there was considerable difficulty in distinguishing.

This was the case for the plaintiff.

Mr. Humphreys, counsel for the plaintiff, addressed the jury upon the letters, animadverting upon the use that had been made amongst medical gentlemen of confidential letters, written on request, and under such a pledge as had been stated. He contended, however, that the letters, taken together, told strongly in favour of the claim of his clients. After Mr. Justice Coltman had summed up, the jury returned a verdict for the defendants upon the first issue, viz., that the deceased, at the time of effecting the insurance had hernia; and for the plaintiffs upon the issue of fraud. The verdict is, therefore, for the defendants, and in favor of the Office.\*

REMARKS.—We should have felt heartily rejoiced if any doubtful circumstances, or mitigatory facts, had existed which would have enabled us to place a favourable construction upon the conduct of a leading witness in the above case. It is with regret, however, we find that there is no ground of exculpation for conduct which must, to a certain extent, affect the character of the whole profession.

\*Abridged from Times Report.

It would be a long and unprofitable task to endeavour to prove the correctness or incorrectness of the opinion that Mr. Ashby was either not the subject of hernia at the time this witness attested the soundness of his health in April 1844, or was then suffering from a diseased condition of the testicle and spermatic cord, which rendered the existence of a reducible hernia unknown to himself, and by no means easily recognisable by his medical attendants. But it appears very clear that sufficient evidence was adduced in favour of the plaintiff's side of the argument to have rendered it highly probable that a verdict must and ought to have been given in their favour, had not the most important feature in the evidence been marred by the conduct of the witness who gave the medical certificate required by the Insurance Office. This was to the effect, that in April 1844, he examined Mr. Ashby for hernia, and was perfectly satisfied that he was not then, nor ever had been, the subject of that disease. A certificate of this kind must, we apprehend, if coming from a credible source, have gone very far to prove the plaintiff's right to a verdict, for, as the report stands, it does not appear that a single positive fact was adduced in evidence to show that the deceased suffered from hernia previous to the time at which he made his declaration—namely, April 3, 1843\*. But when the witness declared upon oath, at the moment he had in his hand a letter which he admitted was written by himself, that he had never said the deceased had had hernia, when the letter is found to contain an admission that the deceased had had slight hernia about four months before he died, which he (the witness) had reduced; and when he further admitted that what he wrote in that letter was a *falsehood*, and implied that he had not in reality reduced a hernia, but had performed the incomprehensible operation of reducing a varicocele by manipulation, it was not likely that the jury would place any confidence in his testimony.

The whole case, indeed, affords an important lesson to all parties, whether insurers or insured. Good faith and upright dealing are required on both sides, or the agreement is invalid. The facts proved at this trial, afford a curious illustration of the state of medical ethics in this country. A physician employed by an Insurance Office procures a letter from a surgeon who had certified to the state of health of the deceased, under a promise "that he might rely that his name would not be given up in any way." The letter was marked "strictly private." At the trial the surgeon makes a statement directly contrary to that which is contained in the confidential letter. The "strictly private" communication is then handed by the Insurance physician to his employers; and the name of the writer is not only given up, but the Insurance Company gain a verdict, not by proving their case, but by showing that the testimony of the principal witness on the part of the plaintiff was unworthy of credit. Here, then, is a double warning. A medical man should not certify one thing and swear to another; and "strictly private" letters forwarded to the medical officers of Insurance Companies will be dealt with according to law—i. e., exposed in court, if they can be made in any way useful towards obtaining a verdict. For our part, we think that in a case like this, an Insurance Company has no right to rely exclusively upon what another and, to them, a strange practitioner perhaps carelessly certifies. It was competent to their own medical officer, with any knowledge of his profession, to determine whether hernia existed or not. The paid officer of the Company however, is contented with barely asking a question; the probably unpaid medical referee makes a careless examination or makes a careless return, when the party who suffers in the event of an erroneous report is the insured, who may probably have been ignorant of his real condition. A policy should undoubtedly be vitiated by any material concealment on the part of the insured; but when it is in their power to appoint experienced surgeons and physicians, and pay for their services, Insurance Companies have no right to rest a case of disputed policy upon the concealment of a disease the existence of which is so easily determined, or upon the bad faith or carelessness of some unpaid medical referee.—*London Medical Gazette*.

\*We have, of course, been compelled to reason upon the facts as stated in the original report, but we apprehend that an error has occurred there with reference to the date at which Mr. Ashby signed the declaration, and was examined by Dr. Robertson; these transactions probably took place in April 1844, not in 1843, as stated in the newspaper report: it is hardly conceivable that an Insurance Company would grant a policy in a case where the declaration of health had been made a twelvemonth previously.

## PHYSIOLOGY.

### ON THE INTIMATE STRUCTURE OF BONE.

At the Microscopical Society, on the 18th March last, a paper was read by the Secretary, John Quekett, Esq., "on the intimate structure of bone in the four great classes of animals," viz. mammals, birds, reptiles and fishes, with some remarks on the great value of the knowledge of such structure in classifying minute fragments of fossil organic remains. After alluding to the highly important results obtained by Mr. Owen, by the aid of the microscope, in determining the affinities of extinct animals by means of their teeth, the author went on to state, that having for some time paid considerable attention to the structure of bone in the four great classes of animals, he had found certain characters peculiar to each great class, by which a bone of one class could be distinguished from that of another. He briefly described certain characters which were present in all bones, and then those which were peculiar to each class; viz., the Haversian canals, and the bone-cells with their little tubes (canaliculi, proceeding from them; and he applied the characters derived from the bone-cells to the determination of the class of animals to which any minute fragment may have belonged; for he had ascertained that the bone-cells were smallest in birds, a little larger in mammalia, and largest of all in the reptiles. The bone-cells of fishes were remarkable for their being so unlike either of the three preceding classes, that having been once seen they could not easily be mistaken. The author then noticed the relative proportions of the bone-cells and blood-corpuscles of the same animal, and concluded by remarking that, however different the size of animals of the same class may be, the bone-cells did not vary according to the difference in size; thus, the mighty iguanodon, some scores of feet in length, had no larger bone-cells than the smallest lizard which we trampled under our feet, nor the horse or the ox than the smallest of our quadrupeds, the mouse.

## SURGERY.

### CASE OF A GUNSHOT WOUND, IN WHICH THE SHOT PASSED THROUGH THE BALL OF THE EYE, WITHOUT DESTRUCTION OF THE ORGAN.

By A. L. Cox, M.D.

On the 16th of July, 1845, I visited Jacob Raider, a German, *et. 24*, who had received a charge of small shot from a gun, in the hands of a companion, in a hunting excursion. He was stooping down in some bushes, and unfortunately, rose up at the very moment in which his friend discharged his piece at some quails, which were flying over his head. Several of the shot struck him on the right side of the neck, and were imbedded under the skin; one could be felt just in front of the ear, and another entered the eye of the same side.

The point of entrance was in the sclerótica, half way between the internal canthus and the edge of the cornea. Judging from the direction and penetration of the rest of the shot, it is probable that this passed through the eye, and became lodged in the muscles or fat immediately behind.

No injury was done to the brain, as was confidently inferred from the absence of all symptoms of cerebral disturbance. The orifice was small, surrounded by a black margin, the stain of the powder, and by a slight inflammation of the conjunctiva only. It was accompanied by loss of vision.

The accident occurred in New Jersey, and the patient consulted a physician in the neighbourhood, to whom he was recommended, who advised him, with some appropriate treatment for the occasion, to hasten home, expressing his confident conviction that nothing could prevent the destruction of his eye from supervening inflammation.

On my way to the house of the patient, I met a friend who has enjoyed a good share of surgical experience and

practice, and invited him to visit the case with me. He expressed the opinion, also, that the loss of the eye was inevitable, and had no doubt of the fact, that the shot had passed through that organ and lodged behind it in the fatty matter, or in the substance of the muscles.

I introduced, with great care, a small gold probe, without any apparent irritation, but was not able to feel the posterior orifice, and unwilling to add to the excitement of the wound, I avoided any protracted employment of the probe.

The indication most important in the case, seemed to me, to prevent excessive inflammation, and my whole practice was accordingly directed to the energetic employment of the antiphlogistic regimen.

I prescribed for him, a dose of calomel, one scruple, to be followed in twelve hours with an ounce and a half of epsom salts. I took twenty ounces of blood from his arm; ordered cold applications constantly to the eye and head, and enjoined a rigorously low diet.

The next day, twenty leeches were applied to the temple; same diet, and an eighth part of a grain of antimony tartarizatum, every two hours. In addition to this, and with a view to anticipate ultimate evil consequences from so serious and unusual an injury, I recommended and practised the introduction of a seton into the nape of the neck. But little fever happened, accompanied with some pain in the eye and head, of which, indeed, he complained from the first.

On my second visit, I found by admitting a little light into the room, that the injured eye was of a pea-green colour; probably owing to extravasation in the iris. The contrast was very remarkable with the other eye, which was of a bright and beautiful blue.

By applying a poultice to the seton, a considerable discharge was established on the third day, which increased afterwards so that it became very free, and I am persuaded, contributed essentially to the happy result of the case. I thought it prudent to resort again to the use of leeches, twice after the second day, viz., on the fourth and fifth days.

By these means, no more inflammation happened than was desirable, and indeed, necessary to the restoration of the wounded tunics of the eye; his sight gradually returned, and at the end of a fortnight I had the satisfaction of pronouncing him well.

About the end of August, just six weeks after the accident, I had a visit from Raider, who could then see as well as ever, with the exception of objects on the right side. He was sensible that in that direction an indistinctness of vision existed, which was, however, so slight, that he said he would not have known it, if he did not compare it with the other eye.—*New York Medical and Surgical Reporter.*

## OBSERVATIONS ON LIGATURES.

(Concluded from last Number.)

I do not hesitate to declare, that the old operations were frequently attended with bleeding; but this we shall prove in due time.

The various circumstances under which the tied artery bleeds, whether at the moment of tightening the ligature—in the sequel of sloughing—as a consequence of too rapid ulceration—or protracted or deficient reparative action—or through premature exertion of the patient,—all these anxious cases are the province of cultivated experience; but it will be my endeavour to confine myself to the exposition of somewhat aggregate facts.

The facts I am about to refer to, will, I hope, lead to a double inquiry—namely, in the first place, are the fatal bleedings after ligatures more numerous than they are reported to be? and 2ndly, is the tying of great vessels capable of improvement?

It seems needful here to speak of at least two kinds of bleeding after ligatures. We have one with pretty copious repair, thickening and contracting vessels, yet a point gives way. We have another list of cases with no repair, or with sloughing, atrophy, ulceration, or abscess, and with gaping tubes. Thus we find only a slight local defect, or a wide constitutional deterioration.

The history of hæmorrhages from ligature resembles the failures of despots. Even museums shew but a part of this unfavourable side of the surgery of arteries, which is to be set against the too partial records of medico-chirurgical societies. The taste for preserving the painful evidences is nowhere, I think, excessive.

Some chief points in the history of ligatures seem to be entirely neglected. Surgeons have not often stated how much they entertained the particular design of thoroughly dividing the internal arterial coats, nor what reason they have had to conclude their design accomplished. They have not stated the circumference of the noose, as shewn after its separation. Some precision here, and as to the apparent size and solidity of the vessel, seem indispensable. Few appear fairly to have matured their hands and judgments by experiments on the body recently dead. I do not know that any one has fairly shewn that the thread may trench deeply on a third, or two-thirds, of the inner circumference, and leave the remainder entire, and the thread perhaps almost loose. The last-named occurrence may explain the case of early bleeding and late separation of the ligature.

I have noted numerous instances wherein I could only suppose that moderation had secretly stood before theory.

One surgeon of distinction tells me he is more gentle than others, and another states that he has never felt the peculiar giving way of tunics in any of his operations.

The separation of a ligature many days after the outbreak of hæmorrhage is not very uncommon. The advocates of tight ligatures may complain that the thread has here done too little, supposing that it should have done wider instead of partial mischief; but it is not desirable that the tardiest process should have involved the whole cylinder, instead of a part.

TABLE.

Bleeding safe.	Bleeding fatal.	Day.	Ligatures separated safely.	Ligatures separated, died later.
1	1	4		
	1	7		
	1	8		
	1	10	1	
	1	11	2	
	1	12	5	
	1	13	3	1
	1	14	1	
		15	2	
1		16	2	
		17	3	1
1	1	18	2	
		19	1	
		20		1
		21	1	
		22	2	
	1	25		
		27	1	
	1	29		
		31	2	
		43	1	
		47	1	
		85	1	
3	11		31	3

A brief consideration of this table will supply a clear idea of Dr. Norris's results concerning hæmorrhages and the se-

paration of the ligatures. In the first column are placed 3 instances of bleeding, which did not prove fatal. These may be assumed chiefly to have resembled the most commonly known occurrences of the same kind, viz., moderate arterial hæmorrhage, arrested by simple treatment and good constitutional powers. The last two cases in this first column may be called decidedly late bleedings, and such are by far the most hopeful.

A recent and most complete digest\* of 60 cases of ligature of the subclavian artery, by Dr. G. Norris, will supply us with some very remarkable and striking inferences.

"The 69 operations were performed for disease or injury. 56 were done for the cure of aneurism; 9, in consequence of wounds or secondary hæmorrhages; 1 was made necessary in consequence of rupture of the axillary in an attempt to reduce an old luxation; and 3 were done for diseases supposed to be aneurismal.

"Of the 69 cases, 33, or nearly one half, died; of these, 2 died from sloughing of the tumor; 9 from hæmorrhage coming on at various periods between the 4th and 33d days; 5 from inflammation within the chest; 6 from mortification of the extremity; 1 from effusion on the brain; 1 from exhaustion; 1 from inflammation; 3 from suppuration of the tumor; and in 5 cases the causes of death is not given."

The fatal bleedings are shown in the second column of the same table. These are 11 in number: but I have to state that a rigid examination of the cases concerned give at least two or three additional examples, wherein death, however, followed from still more serious causes. The first bleeding was fatal on the 4th day, the 2d on the 7th, and so on. It need not be shown that, for the most part, the hæmorrhagic cases hold out at least a day or two. A case of bleeding fatal on the 18th day was one of repeated bleedings from the 7th day; that fatal on the 25th day lasted four or five days.

It must be admitted that the instance fatal on the 11th day was seriously complicated with visceral inflammation, although bleeding had gone on from the 8th day; and the last two cases in the column fatal on the 25th and 29th days, may be said to have had a narrow escape of complete recovery—at least, so far as the ligature was concerned, although both evinced considerable fixed disorder of constitution. The last fatal bleeding began on the 28th day as a sequel of erysipelas.

The preceding would appear to lead to the conclusion, that the serious hæmorrhages began almost entirely before the 12th day. It may be supposed that the non-fatal bleedings set down in the first column, for the 4th day, and which was also repeated on the 5th, almost belongs to the cases in our second or fatal column,† and it may be fairly inferred that the fatal hæmorrhages are not fewer than the table demonstrates.

The third column gives the days on which the grand events occurred. The fourth relates to the manifest separation of the ligatures.

On the 10th day only one ligature came away; on the 11th, two: but, observing the dates of the fatal hæmorrhages in column two, these almost solitary and in a manner premature events would seem to have been very nearly cases of hæmorrhages; 5 ligatures came off safely on the 12th day, 3 on the 13th, and so on. The 5th column presents only the minor facts of the safe separation of a ligature on the 13th, 16th, and 20th days, the patients sinking at a later period from remote causes.§

\* American Journal of Medical Sciences, July, 1845.

† The Table, which I have taken some pains to test, does not verify this number:—I make it the 28th.

‡ The complete separation of the ligature was probably subsequent.

§ I am indebted to the precision and zeal of an able friend, Mr. H. Hales for the discovery of an error in Dr. Norris's table, which is rather more adverse with reference to my arguments than to Dr. Norris's great carefulness.

By another method of calculation Dr. Norris's admirable Table will fairly justify the statements which follow. The mean time of death by bleeding is 14½ days after applying the ligature; this brings the *incipient* hæmorrhage to about the 10th day. The mean day of three hæmorrhages not fatal was the 13th. The mean time for the separation of the ligature in the successful cases was the 16th day.

It may be extremely easy to give a different expression to every one of the particulars, which, for the sake of simplicity, I shall reduce to 5 simple numbers. At all events, we must infer that a certain critical day is to be pointed out preceded by dangers, and followed by comparative security, quoad the operation. In short, there is a time before which the only separation of ligatures is hæmorrhagic, and pretty certainly fatal. There is a later period when bleedings are few and much more hopeful; and again, one when the process of detaching the ligature is harmless. We may admit that more facts and more experience ought to correct these generalizations, but we hope that many will grant both truth and force to the deductions—

That the 12th is about the critical day.

That about 11 fatal hæmorrhages precede this period.

That about 3 safe hæmorrhages follow the same period.

That after the 12th day all the separations of ligatures are safe.

The residual facts of deaths from various constitutional causes will be found very closely represented by the number 22, including probably an hæmorrhage or two.

As far as we have at present gone, there appears to be a time beyond which hæmorrhage is but little to be expected; and although sometimes no repair can be attempted, later bleedings are, in the main, more hopeful. We have found nothing whatever to indicate one evil from too loose a ligature, or from one retained beyond the ordinary periods of separation. We must conclude that the tightness of the ligature regulates in good part the rapidity of the separation; and that a somewhat tardy process of securing the vessel is vastly in favour of the natural powers, and of judicious endeavours to reinforce the constitution. We ought, of course, to look for a certain proportion of late and serious bleedings when the ligature has acted with its utmost of safety; but their characters will be found specific enough. It will be a prime object of consideration to inquire how it happens that, in the course of tolerable repair after ligature, hæmorrhage once established may become fairly stayed. The distension is within the tube, the resistance fails at the orifice. The first declines, and the latter prevails. That essential power of contraction which tumid organizations and new growths possess, seems to be the final curative means at the precarious crisis. A proper attention to this effort may obviate new dangers and fresh operations. We should ever fear lest loss of blood, or even a purgative, may lead to absorption or ulceration. It is bad enough only to retard the reparative closure of the wound. A fortnight's abstinence may bring one near to atrophy, if not to ulceration.

After a fuller review of facts, we may better inquire how far the events are affected by the state of the blood—its quality, quantity, and tension.

It appears that one safe ligature came off on the 10th day, (Dr. N. says the 12th). The patient was a healthy temperate man, et. 35, with a very large aneurism. The "serre-nœud" was used to enforce the tightening of the ligature! (Todd, Dublin H. R. iii. 472.)

Again, the *Leçons Orales* 1839, to which Dr. N. has not had access, enable me to correct the statements relative to Dupuytren's two cases. I have transferred the successful separation of a ligature from the 15th to the 11th day on my tables; and finding that the fatal case died from the 4th day, I increase my second column by one. The man was aged 38. Nerves were included in the ligature, and the middle scalenus was "un peu intéressé." Tying the first knot caused fearful pain, but it would seem to have been too much to undo it. There is a doubt whether the impulse in the sac was extinct. The 8th was the fatal day. The date seems 1819 for both cases, and in each the anterior scalenus was divided.

I next propose to offer some particulars concerning the ligature of other great vessels, and the main results, which will not be found less corroborative of my present position, although I shall endeavour in good part to present them as illustrations of ulterior points.—*London Medical Gazette*.

#### ON THE INJECTION OF AIR INTO THE EUSTACHIAN TUBE, IN CASES OF DEAFNESS.

The injection of air into the Eustachian Tube, though practised many years ago, had almost fallen into disuse, until revived by Kræmer, of Berlin, and latterly, we believe, by Yessely, of London. In a recent work on Deafness, we find the following passage, which we have much pleasure in laying before our readers; it will give them a good idea of the opinion of the best French Aurists on this matter:—

"Dans tous les cas, M. Delcau n'a pas eu confiance aux injections, car il préfère traiter l'oreille interne au moyen des douches d'air, pour qu'il donne à une colonne de ce fluide qu'il introduit au moyen d'une espèce de soufflet qu'il a fait confectionner à cet usage. On lève aussi les mêmes doutes sur les succès par ce dernier procédé. Voici, au reste, comment s'exprime le docteur Hubert Valeroux:—C'est dans le but d'éviter des incon vénients des injections liquides, et de faire parvenir directement à l'oreille moyenne des agents thérapeutiques appropriés à son mode de vitalité, que le docteur Delcau propose, il y a une vingtaine d'années, d'associer les injections gageuses au cathétérisme, dans le traitement des surdités par cause interne. A l'appui de son inadvertence, le docteur Delcau cita, comme on sait, plusieurs succès, et entre autres, la guérison de quelques sourds-muets; s'élevant ensuite avec force contre les méthodes de traitement suivies jusqu'alors, il signala les inconvénients des alcalis métalliques, et s'étendait sur les dangers qui résultent des injections liquides dans les cavités de l'oreille moyenne. Tout le monde se souvient des discussions que ces travaux soulevèrent dans l'Académie. Itard surtout dont la méthode avait été si fortement attaquée, y prit une large part; et jamais, dit l'auteur de son éloge historique, [le docteur Bosquet] deux auteurs ne furent plus opposés et plus fermes dans leurs doctrines. Il ne peut entrer dans notre dessein de recommencer une discussion depuis longtemps éteinte; le docteur Delcau a rendu à la Thérapeutique Auriculaire un service qu'il serait injuste de méconnaître: mais aussi, il faut le dire, l'esprit d'enthousiasme a singulièrement exagéré les avantages de la douche d'air."

"Pour apprécier à sa juste valeur le procédé de M. Delcau, nous devons faire observer d'abord, que l'air atmosphérique ne peut dans aucun cas être considéré comme un médicament, et que les guérisons nombreuses et incurables consignées dans les travaux de cet auteur, doivent être rapportées à toute autre cause qu'à celle qu'il lui assigne. Itard avait levé la même doute, ce que lui faisait dire: 'Dieu seul pourrait d'un souffle, rendre l'ouïe à l'homme.'"—*Journal des Connaissances Médico-Chirurgicales*, 1843.

[We propose laying before our readers, in the subsequent numbers of this Journal, the Clinical Lectures of Sir Benjamin Brodie, now in course of publication in the "*London Medical Gazette*," which, we have little doubt, will be as highly valued for their eminently practical character by our readers, as they are by British surgeons:—

#### LECTURE ON DISEASES OF THE KNEE-JOINT.

By Sir B. C. BRODIE, Bart.

##### *Morbid alteration of structure of the synovial membrane.*

There is a curious condition of the synovial membrane in which it seems to have undergone a peculiar morbid alteration of structure. It is thickened in various degrees, sometimes to the extent of an inch and a half, having assumed a sort of pulpy structure intersected by white membranous bands. In some instances there is a preternatural vascularity and vessels injected with blood are seen ramifying in it to a considerable extent. In other cases no increased vascularity



is perceptible. There is little doubt that in some cases this is the result of long-continued chronic inflammation; but in others I am led to believe that it takes place independently of inflammatory action; at least, I have seen several cases in which there were no symptoms indicating the presence of inflammation until the disease had reached its most advanced stage; and we well know that at this period of an organic disease inflammation is liable to occur, whatever the disease may be. I am not certain that I have seen this disease anywhere except in the knee-joint, but Mr. Hodgson of Birmingham, has met with it in the joints of one of the fingers.

Where the disease supervenes on repeated attacks of inflammation, there are of course in the first instance inflammatory symptoms such as I described in a former lecture. In other cases, in which it seemed that the disease had not been inflammatory in its origin, the symptoms have been as follows:—

The patient complained not of pain, but of a slight stiffness in the joint, so slight that at first it scarcely attracted his attention. The pain then became more considerable, and on looking at the knee he has perceived that it was somewhat swollen. The swelling and the stiffness have increased, still being unaccompanied by pain, and at last the swelling has attained a large size. On examining the knee at this period, I have found a soft elastic swelling, without any sense of fluctuation, and having somewhat of the same shape that it presents in cases of inflammation of the synovial membrane when the joint is distended with fluid; the principal difference being, that the swelling, instead of being uniform, was more prominent in one part, less so in another, in consequence of the difference in the progress of the disease in different situations. Occasionally the disease is limited to one portion of the membrane. A girl labouring under this disease died in this hospital from some other malady, and on examining the body I found the synovial membrane on the inner side of the knee altered in structure in the way which I have mentioned, while on the outer side it did not differ from its natural condition. The disease has sometimes gone on for two, three, four, or five years, before any further symptoms showed themselves. As it has advanced to the layer of the synovial membrane, which is reflected over the cartilage, the latter has begun to ulcerate, the ulceration being marked, as on other occasions, by aggravation of pain and startings of the limb at night. At this stage of the disease small abscesses form in the substance of the diseased synovial membrane. These gradually make their way to the surface, one coming forward in one place, and another in another, discharging a very small quantity of matter.

When the cartilages are thus ulcerated, and matter is formed in the joint, and perhaps in the substance of the synovial membrane also, the patient's health begins to be affected, as in other cases of articular abscesses, and at this period nothing can be done for him but to amputate the limb. Can any remedial means be employed with success in the early stage of the disease? I used to think not, and that is the opinion I have published in my work on Diseases of the Joints. It was my belief that it was a disease not under the control of art: I had indeed seen both local applications and constitutional treatment employed without any good result whatever. But I am not satisfied that this opinion was correct. The following case occurred about ten years ago, and I mention it because I had an opportunity of watching its progress for several successive years:—

A young man, about eighteen years of age, consulted me concerning a disease in the knee. It had then been advancing slowly for five years; there was no pain, and never had been, but the joint was considerably swollen, the swelling being elastic, more prominent in some parts than in others. There was no perceptible fluctuation, but the joint was very stiff, and the disease had all the characters of that which I have just described. I first of all applied pressure

by means of several alternate layers of diachylon plaster and bandage, and this was kept up for a considerable time; afterwards recourse was had to leather splints, secured by a firm bandage, so as to keep the joint fixed at the same time that moderate pressure was made upon it. Constitutional treatment was not neglected. The patient was put through a course of sarsaparilla and the bichloride of mercury. This plan of treatment, occasionally varying the medicine, and still keeping up pressure, was persevered in for three years, with a slow and gradual, but very manifest improvement: and when I last saw the patient the joint was scarcely larger than the one on the opposite side. It was stiff, but he walked very well with an ankylosed knee.

The disease which I have now described is of rare occurrence, and although it may sometimes originate in long-continued inflammation, it is to be distinguished from the pulpy thickening of the synovial membrane which I have formerly described, which is common enough. The appearances which the disease presents are displayed in the drawings and preparations on the table.

#### *Loose cartilages in the knee.*

Loose cartilaginous bodies are sometimes found in the joint. They are more commonly met with in connexion with the synovial than the serous membranes, but are not peculiar to the former. They sometimes are formed in the pleura and in the tunica vaginalis, and I have in one instance met with them in the cavity of the peritonæum. In its recent state the large cartilage is generally flattened, smooth on the surface, but of an irregular shape. In the first instance it is connected by a band of membrane which seems to be a continuation of the synovial membrane, to the inner surface of the joint, but at last this membrane becomes ruptured, and then the cartilage is altogether loose in the articular cavity. It has just the appearance externally of the proper cartilage of the joint. When it is of small size it is cartilage throughout, but when it attains a large size, we generally, I might, I believe, say always, find that the bone has been deposited in the centre. When dried it shrinks to so small a size that scarcely any part except the bony centre is perceptible; as you may see in the specimens which I now show you. These loose cartilages form in various numbers; sometimes there is only one, but I have in operating on a single patient extracted as many as five.

The first inconvenience which the patient experiences generally occurs in walking. The cartilage slips between the articular ends of the bones, producing a good deal of pain, interfering with the motion of the joint, and sometimes causing him to stumble. By a little management he contrives to expel it from the situation in which it is lodged, and then he walks home well enough; but he is liable to a recurrence of the accident. The distress which the disease occasions is different in different cases; the difference depending on the circumstance of the cartilage being or not being attached to the synovial membrane, on its size, and other circumstances. In one case it may slip more easily between the bones, and less easily in another. Not unfrequently the patient goes on for years suffering very little from the disease. In other cases, not only does the cartilage frequently slip between the bones, but whenever it does so a violent attack of inflammation of the synovial membrane takes place, so that the patient is laid up, perhaps, for weeks. After a time it would appear as if the constant slipping of the cartilage between the bones injured the articular cartilage and caused them to ulcerate. Here is a specimen where there were two loose cartilages in the joint; the cartilage covering one of the condyles of the femur is ulcerated to a considerable extent, but without suppuration. In this case the patient used to suffer more than the usual amount of pain in the joint, whenever the cartilage slipped in between the articulating surfaces.

These cartilages may be removed by an operation, which I have performed several times. In some instances no in-

Inflammation followed the operation, in others a great deal. In one case which came under my observation, under the care of the late Mr. Jeffreys, suppuration followed, with a great deal of mischief, and the patient ultimately lost his limb. I suspect, however, when such ill consequences ensue, that very frequently it is the fault of the surgeon. The operation requires to be performed with the greatest caution. Get the cartilage fixed over the outer or inner condyle of the femur, and there let it be held, either by yourself or an assistant, to prevent it slipping into the joint. The skin, the cellular membrane, the fascia, the ligaments, and the synovial membrane, must be slowly divided one after the other; the knife being held with a light hand, as otherwise the cartilage will be pressed into the joint, and you will not be able to extract it. Having divided the parts carefully, and made room for the cartilage to escape through the synovial membrane, take hold of it with a tenaculum or some other sharp pointed instrument, withdraw it, and bring the edges of the wound together. If the cartilage should slip away, never grope for it, but bring the edges of the wound together, and no harm will happen, and there will be nothing to hinder the operation being performed on some other opportunity.

It has been supposed that an improvement might be made in this operation, by making a valvular opening; that is, by introducing a narrow sharp-pointed bistoury, puncturing the skin at some little distance, and then dividing the fascia and other parts down to the cartilage, on the principle of the subcutaneous operation performed for the division of tendons. I do not myself see why this method should be preferable to the other; it is not the wound of the skin, but that of the synovial membrane, that makes the danger; and I am satisfied from what I have seen that a principal source of danger is the anxiety of the surgeon to finish the operation, which leads him to grope for the cartilage in the joint when it happens to have slipped away from the wound, instead of waiting for a future day.

#### *Fleshy tumors within the Knee-joint.*

Fleshy tumors sometimes grow from the inner surface of the synovial membrane. I have seen two cases, one under the late Mr. Ewbank in this hospital, and the other in a patient of my own in private practice. In both cases the disease was mistaken, before the operation was performed, for a loose cartilage. In Mr. Ewbank's case he detached and removed it, and the patient recovered without any bad symptoms, but there was reason to believe that the excrescence grew again. In my case the excrescence had a broad attachment, but I divided it and removed it. A good deal of inflammation supervened, but no real harm happened, and the patient recovered. This was upwards of 20 years ago, and he has continued well ever since. Still, I cannot but think that the operation is attended with a certain hazard to the limb; therefore I would not recommend it, except where the disease was productive of very great inconvenience.

#### *Malignant diseases of the knee.*

I have not met with a case of true scirrhus or carcinomatous disease of the knee; but many examples of that form of malignant disease to which the names of medullary disease, and *fungus hamatodes*, have been applied, have fallen under my observation; and the appearances which this affection of the joint exhibits are well displayed in the preparations and drawings on the table.

The morbid growth, as far as my experience goes, always has its origin in the cancellous structure of the bone; sometimes of the femur, sometimes of the tibia. When it begins in the tibia it is likely to be detected at an earlier period than when it begins in the femur; for a plain reason, that this bone being less covered by muscles than the femur, any enlargement of it is more apparent.

Sometimes there is, in the first instance, a dull pain referred to the seat of the morbid growth; and this is followed by a slight enlargement of the joint. In other cases the enlargement is the first thing perceptible, there being no ante-

cedent pain. In some instances the patient is not conscious of the existence of any disease until it is suddenly roused into action by some accidental injury. The patient whose limb, after amputation, furnished one of these preparations and drawings, while carrying a heavy weight, slipped with one foot in a hole in the ground; a severe pain in the knee was the consequence, and an enlargement of one of the condyles of the femur was observed for the first time immediately afterwards. In the early stage of the disease the diagnosis is always difficult, and indeed a certain diagnosis cannot be made. The tumor gradually increases, sometimes with much pain, sometimes with little; and, as it increases, the nature of it becomes sufficiently manifest. In some parts it is hard where the external shell of bone remains entire; in other parts, where the bone has disappeared, it is comparatively soft and elastic. In some parts the skin retains its natural appearance, in others it is of a dark red colour, and adheres to the morbid growth beneath. The superficial veins are seen in a dilated state ramifying over the surface of the tumor. For a long time the motions of the joint are not materially impaired; and you will perceive in the specimens before you how large a size the tumor may attain without the cartilage being affected by it. Of course ultimately all the textures of the joint become involved in the disease, and unless amputation be had recourse to the skin itself ulcerates.

As to the treatment of these cases there is little to be said. You have no remedy to offer with the exception of the removal of the limb by amputation. But will the operation produce a cure? I fear that we must answer the question by saying that it will not do so in the great majority of instances. I have, however, met with two cases in which the patients were alive and well many years afterwards, and, indeed, as far as I know, they remain so at the present time, although in one of them the operation was performed seventeen years, and in the other nearly eleven years ago. In each of these cases the morbid growth had begun in the condyles of the femur; it had attained a very large size, but had at its upper part a very abrupt termination; and in sawing through the bone, some way above it, both the bone itself, and the medulla and the medullary membrane, seemed to be in a perfectly healthy state. I own that I have entertained some doubts whether in these cases I had not been in error as to the real nature of the disease, and concluded too hastily that it was of a malignant kind. The amputated joints, however, were fortunately preserved, and on a close examination of them lately, I cannot in their present appearance find any thing to justify this suspicion, and I still feel myself bound to say, that however frequent the failures may be, amputation is occasionally successful. Of course, before you recommend such a proceeding you will satisfy yourselves that the boundaries of the tumor are well defined; that the glands in the groin are free from disease; that there are no signs of disease in any other organ, and that the general health is good. It is reasonable to suppose that there is a greater chance of ultimate recovery where the disease has originated in the head of the tibia, than where it has been seated in the condyles of the femur; as in the former, without having recourse to so hazardous an operation as that of amputation at the hip-joint, you may remove the whole of the bone in which the disease began.

#### *Cartilages and bone of the knee worn away by friction.*

Here is a specimen showing a condition of the knee-joint that is sometimes met with; the cartilage and even the bone are worn away by friction, as if they had been scraped by a chisel or some other hard instrument. This state of things occurs in old cases of inflammation of the synovial membrane where the patients have been liable to the disease for many successive years, and generally in gouty persons; there being in many instances a deposit of lithate



of soda at the same time on the inner surface of the membrane.

I have said that the parts appear as if they had been worn away by friction. But this is not all; if it were so, the cancellous structure of the bone would become exposed, which, as you will perceive, on examining the preparations, is not the case. A process of repair is going on simultaneously with that of destruction, in consequence of which the exposed surface of the bone every where is of a hard and compact texture.

The existence of this singular condition of the joint is indicated by a grating like that of a rusty hinge; a circumstance which the condition of the articulating surfaces at once explains.

A somewhat similar symptom may occur under other circumstances. In young persons, especially in young women, there is sometimes a crackling not only of the knee, but of the other joints, apparently connected with a defective secretion of synovia. In elderly persons the cartilage undergoes an alteration of structure, assuming a fibrous appearance, and this is followed by an absorption of it, so that the surface of the bone is exposed, and the result is a grating like that of a fracture when the joint is moved. This is one of the changes incident to advanced life, is scarcely to be regarded as a disease, and can no more be remedied by art than grey hair can be restored to its original colour.

#### *Hysterical Affections of the Knee.*

There is a complaint of the knee, of common occurrence, especially in young women of an hysterical constitution, and which is frequently confounded with more serious diseases; so that I have known patients labouring under it to be treated for a long time for scrofulous disease, or ulceration of the cartilage; and, indeed, cases have occurred in which the limb, through this error, had been actually amputated. An hysterical young woman sprains her knee, or thinks that she does so, in walking. She complains of pain; believes that she cannot walk; she becomes an object of attention, and her family and friends are alarmed by the prospect of a white-swelling. I need scarcely state that all hysterical symptoms are aggravated by constant attention to them, and such is the case here. The pain becomes more severe, and at last a surgeon is consulted. He finds the knee no larger than the other, but the patient says it is exceedingly painful. She cannot bear it to be touched or moved, and often lies on the sofa a perfect fixture. On your examining the knee she winces as if it caused her the greatest suffering; and you may observe that the slightest touch will produce as much pain as a heavy pressure. Pinching the skin over the joint occasions more pain than squeezing the surfaces against each other with the hand on the heel. If the limb be examined while the patient's attention is directed to what you are doing, she complains severely, but if the examination be made while she is engaged in conversation, and her mind otherwise occupied, she bears considerable pressure on it without making any complaint whatever. The following are the diagnostic marks of the disease:—*first*, that the patient is of an hysterical constitution, probably she has other hysterical symptoms; *secondly*, that the joint is not swollen; *thirdly*, that a light touch of the skin produces as much pain as a heavy pressure; and, *lastly*, that if the patient's attention be directed to other matters the joint may be handled without causing any pain at all.

For the most part the diagnosis is sufficiently easy. There are some cases, however, which will puzzle a surgeon in spite of a good deal of experience. For instance, a girl labours under this affection of the knee; it has been mistaken for two or three years, leeches have been applied, repeated blisters and stimulating liniments of all kinds have been used to irritate the skin. These applications alter the appearance of the joint, they cause effusion of serum and

lymph beneath the skin: the joint seems swollen, and under this mistaken treatment, continued for two or three years, although there is no disease at all, the knee looks as much like a diseased joint as possible.

This affection is occasionally met with in the hospital, but more frequently in private practice. I am satisfied that a great number of cases that were formerly treated as white swelling of the knee were nothing more than hysterical affections. I have myself mistaken the case, over and over again, in the early part of my professional life; and I suspect there are some who are liable to make the same mistake even at the present day.

The more the attention that is paid to any hysterical disease, the longer it will last. If an hysterical patient has retention of urine, while a catheter is regularly used she will not recover the power of making water herself. So, in this case, so long as the knee is made the subject of surgical treatment, and the surgeon pays his daily visits, and the patient's friends continue to make her complaints a subject of conversation, so long will her recovery be delayed; and hence it is that I have known young women affected in this way, remain on a sofa, the victims of an error, for many successive years.

The first thing to be done is, to direct the attention of the patient to other things. Tell the family not to make her ailments the subject of conversation; and, *above all*, do not let her have too much surgical attendance. Nothing should be done in the way of local application, for it only fixes the thoughts on the part affected. If anything be applied it should be a simple remedy, such as a lotion of camphor mixture and spirits of rosemary; and this should be had recourse to only when the pain is more severe than usual. But try to improve the general health. Probably the menstruation will be found deficient; and some preparation of iron may be exhibited with advantage. In many cases there is a weak circulation, cold hands and feet; and combinations of iron and ammonia with infusion of quassia or some other bitter may be useful. If the patient lives in the metropolis, let her if possible spend a part of the year at the sea side. Above all, do not let her be confined to the sofa. She will say that she has so much pain that she cannot move. Then let her have crutches. Do not urge her to do very much at first, for this will excite suspicion and have a bad moral influence, but persuade her to do what she can without great inconvenience. She will find that she does not suffer as she had anticipated, and then she will be disposed to do a little more, until at last she finds that she can walk as usual. Whether she recovers soon or not will depend mainly on this—whether or not she really wishes to be cured; and in this respect there is a very great difference: some young women, (and, I may add, young men too, for the same train of symptoms sometimes occurs in the other sex), prefer being laid up, and being pitied and made much of by their families; while others, being of a higher order of mind, are really anxious to get about, to enjoy the society of their friends, and perform their social duties; and the latter will recover much sooner than the former.

[At a meeting of the Surgical Society of Ireland, held on the 7th of April, 1846, a paper was read by Dr. Bigger, on the use of "*Prussic Acid Vapour in the treatment of Ophthalmic Diseases.*" Some of our readers may not be aware that this supposed remedy was introduced into practice by Dr. Turnbull, of London, who, with Gearsley, Culverwell, L'Amert, and others, though belonging to the profession, had so far forgotten their duty to it, as to have adopted the ordinary methods resorted to by the unprincipled Charlatan for notoriety and

Practice. The value of prussic acid in such cases was soon, however, disproved, even by those whose credulity induced them to make trial of it, and we had fancied that its reputation had descended to the tomb of all the capulets, when, to our surprise, we found that a paper on such a frivolous subject was brought before the learned body above alluded to for its consideration.

We should not, however, have occupied this space in our Journal on such an evidently quackish production, were it not that in doing so we are enabled to introduce the following valuable remarks on "Opacities of the Cornea," by Dr. Jacob, one of the most learned and scientific ophthalmic surgeons of Europe.

In conclusion, we beg to say, that we entirely concur in the following, and have, on various occasions, had an opportunity of satisfying ourselves of its accuracy.—**Ed.]**

Dr. Jacob, in rising at the then advanced hour of the evening, felt that it would be utterly impossible to enter into or attempt to discuss the subject before the society on the present occasion; nor would he think of offering an observation under such circumstances, did he not consider it of the utmost importance that in any medical society, but more particularly in the Surgical Society of Ireland, it should be well understood how far its members gave credit to or concurred in the statements contained in any paper submitted to their consideration. It would appear to him that many of the cures attributed by Dr. Bigger to the use of the prussic acid vapour might be only apparent, and might, perhaps, with more justice, be traced to the natural salutary processes of the animal economy, which in course of time succeed to the formation of those opacities, whether it be the mere subsidence of inflammatory action, or the agency of the absorbents; but for his own part, the conviction on his mind for many years has been—and nothing that he had latterly heard in the least tended to shake it—that however dense these opacities become, were they even as white as paper, they will be obliterated in time, unless the product of destructive alteration in the cornea, consequent on wounds or ulcers; unless, in fact, they are actual cicatrices. For these reasons, then, he knew not when he had resorted to the use of stimulants of any kind in cases of this description. White opacities of the densest kind, resulting from chronic cornitis, attacking the individual off and on for a long period, he had known, after a lapse of a year or two, entirely to disappear, leaving the cornea as clear as crystal, without a single application having been used during the whole time. Diffused nebulous opacities, ten times the size of the original little ulcer, he had in like manner known to disappear; let the process effecting their disappearance be called absorption, or what it may, go they will. It will often happen, Professor Jacob observed, that children or adults present themselves to him with what they call a pearl, and if on examining this it turns out to be the well-defined cicatrix of an ulcer or wound, he at once says—"You may expect that, to a certain extent, the speck will remain; it will never entirely disappear, though after a time it will decrease so much as to be barely perceptible." Well then, he said, if the foregoing remarks be true, it comes to this, that all opacities, whether the consequence of general inflammation extending to the transparent structure of the organ, or resulting from wounds or ulcers, will severally disappear to a greater or lesser extent, if they be not cicatrices. How this is effected, he could not, as he before remarked, undertake to say, but the process, whatever it may be, is

effectual if the opacity be unaccompanied by any disorganization of the corneal structure. Some would say these opacities consisted of deposition of lymph, but how reconcile with that view their persistence for such a lengthened period? He would add, that in that very remarkable affection, *staphyloma pellucidum*, the consequence of long-continued inflammation of the cornea, the opacity is in the beginning well marked of course, but only leave it to time for a while, and the cornea becomes eminently and beautifully transparent. What he stated was, he believed, contrary to the received opinion on the subject, but as he had already said he had long acted under the conviction of its truth. The distinction he had drawn should be remembered—viz., that all opacities, not resulting from wounds or destructive ulceration, will of themselves entirely clear away, but in those which arise from the last mentioned causes, however shallow the original excavation, the opacity remains permanently, and may be seen for twenty years after as a slightly opaque nebula, the healthy operation of the animal economy being insufficient to restore transparency. Stimulation will not do; on the contrary he had often and often known stimulants—not the prussic acid—only increase the evil. To the influence of natural causes, then, he observes, is clearly due all the credit attributed from time immemorial to the popular remedies for the removal of opacities, such as calomel and sugar, the various stimulating drops, &c., and he would unhesitatingly assert that there was no opacity which would yield to stimulants that would not pursue a similar course if left to nature; and it was no less certain, he said, that opacities of the other kind, in other words, the cicatrices resulting from wounds or ulcers, will never entirely vanish. The portion of cornea thus rendered opaque by the healing of wound or ulcer is essentially no longer cornea, for its structure undergoes some marked alteration. At the very time that a remedy has been employed, he would have remarked, it has very often happened that the opacity has disappeared in spite of the remedy. In conclusion, Professor Jacob wished by no means to appear desirous to set at nought the statements made by Dr. Bigger. He merely wished to place his own views, formed on physiological and pathological deductions, before the society. How far the employment of the prussic acid vapour may have tended to hasten the removal of the opacities in the cases cited by Dr. Bigger was quite another point; for his own part, he would willingly hear at a future meeting any objections that might be urged against the views he had just advocated, and would again observe, that his object in at all alluding to the subject under consideration at this late hour was, that the society might not break up with the risk of its going abroad that their entire acquiescence had been given to the opinions expressed.

Dr. Bigger begged to remark that he entirely coincided in opinion with Professor Jacob, as regarded the opacities consequent on deeply penetrating wounds and perforating ulcers—viz., that they probably never completely disappeared by the use of the acid. He wished it to be remembered, too, that he did not come forward as the advocate of the system which he had introduced to the notice of the society, but only as the prover or experimenter on the suggestions of others.

#### REMOVAL OF A PORTION OF THE LIVER FROM THE HUMAN SUBJECT.

Dr. Macpherson, in the northern Journal of Medicine, having referred to two similar cases, records that of a Hindoo, from whose liver a considerable piece was removed during life, and without a fatal result. The man had been stabbed in the side about twelve hours previously to his being brought to the doctor, who found a wound about an inch long, through which a triangular piece of the liver, about the size and shape of four fingers, projected. Finding it

return impossible without enlargement of the wound, Dr. Henderson resolved on cutting it off, and

"To prevent hemorrhage, a ligature was applied tightly round the base of the protrusion, which was then cut off. Two arterial twigs bled very freely, and it was found necessary to take them up, and a double ligature was also passed through the stump, and tied on either side, when all bleeding ceased. No attempt was made to return the portion of liver which still filled up the wound, as it was desirable to prevent all risk of blood or bile being extravasated into the cavity of the abdomen. For a day or two the patient was rather low, and had slight irritative fever, and the bowels remained constive. These symptoms yielded to a few doses of purgative medicine, and in nine days the ligatures came away along with a small slough of liver; the wound granulated and healed, and the man returned to his home in three weeks. No bilious discharge occurred from the granulating surface of liver. The portion removed, after having lost its blood, and being in spirits for some weeks, weighed  $1\frac{1}{2}$  oz., its surface uneven, though not torn, and it is probably a portion of the edge of the right lobe, from near the notch between it and the left."

"It might be added, that the patient complained of a good deal of pain when the surface of the liver was touched, but that cutting through its substance, caused him hardly any."

"The old man appeared two months after as prosecutor in his own case; he was in perfect health. There was a little puckering in of the skin about the wound, and the liver was evidently adherent beneath."

## MIDWIFERY.

### EXTIRPATION OF THE UTERUS SUCCESSFULLY PERFORMED.

By T. L. GREGSON, Esq., Surgeon, Newcastle-on-Tyne.

Mrs. A—had been delivered of her second child, by a surgeon, in a village, two years ago. As she complained of much pain and uneasiness, on the third day, her medical attendant ordered her to get out of bed, and walk smartly across the floor. She improved slowly, and complained much. About a year ago, she came here, and was some months under the care of a surgeon. About six months ago I was called to attend her. I found her extremely emaciated and exsanguine, having for above a year been exhausted by most profuse hemorrhage at every monthly period. On examination I found a pear-shaped body filling the vagina, the os tincæ embracing it firmly, and apparently adhering at one side. I gradually introduced my fingers, endeavouring to grasp it, and push it through the os tincæ. This procedure caused extreme pain and some hemorrhage without its yielding in the least: it was of a purplish red colour. Feeling satisfied that it was an almost complete inversion, or, I might say, eversion, of the uterus, I endeavoured, by chalybeates, &c., ergot, and astringents, to improve the system; but every monthly period produced extreme exhaustion, and death seemed inevitable. As a last chance, and with the consent of herself and friends, I resolved to extirpate the uterus. I went, accompanied by my friend, Mr. Frost, a most able accoucheur, and who agreed with me, as she was so exhausted and exsanguine, that the attempt was justifiable. I laid hold of the tumour, and drew it as far down as possible; in so doing, the os tincæ entirely disappeared, leaving no doubt of the nature of the case. A very strong silk cord was then passed around it, and carried high up by the double canula, the cord being also passed through the eye of a strong curved steel staff.

I found this a very valuable means, as I could carry the ligature around the part with the greatest facility. The knot was then tied with great firmness, leaving the staff included in the ligature and opposite the knot; this instrument was secured to the inside of the thigh with a tape. By turning the handle once or twice round, the ligature could be tightened to any degree. This was done from day to day, and caused rapid sloughing of the part. It separated entirely on the ninth day. From the commencement of the operation to its coming away, reaction was very moderate. She required no treatment beyond an occasional anodyne, castor oil, and the catheter used twice. She gained strength rapidly. She was made to keep the recumbent posture twenty days. It is now three months since the operation. She goes about the house, and has walked out a little, feeling easy and comfortable.

Such cases being generally considered hopeless, I have detailed

particulars, perhaps minutely. I believe the great point to be kept in view when the ligature is used, is to tie it with great firmness at once.

On examining the part, I find that the body and neck of the uterus are entirely removed. There has been no disturbance at the monthly periods, nor symptoms of the system feeling the want of the organ removed.—*Lancet*.

## CHEMISTRY, MATERIA MEDICA AND PHARMACY.

### ON NEW MAGNETIC ACTIONS, AND ON THE MAGNETIC CONDITION OF ALL MATTER;

By MICHAEL FARADAY, Esq., D. C. L., F. R. S., &c.

"Experimental Researches in Electricity," 20th series, sect. 26th. (*Phil. Mag.*, Feb. 1846, xxviii, 147.)—The following is the order in which the several divisions of the subject treated of in this section of the author's researches in electricity, succeed one another:—1. Apparatus required. 2. Action of magnets on heavy glass. 3. Action of magnets on other substances acting magnetically on light. 4. Action of magnets on the metals generally. 5. Action of magnets on the magnetic metals and their compounds. 6. Action of magnets on air and gases. 7. General considerations.

In giving an account of the contents of this paper, any attempt to follow the track of the author in the precise order in which he relates the consecutive steps of his progress in this new path of discovery, would fail of accomplishing its object: for, by adhering to such a course, it would scarcely be possible to comprise within the requisite limits of an abstract, the substance of a memoir extending, as the present one does, to so great a length, and of which so large a portion is occupied with minute and circumstantial details of experiments; or to succeed in conveying any clear and distinct idea of the extraordinary law of nature brought to light by the author, and of the important conclusions which he has deduced.

One of the simplest forms of experiment in which the operation of this newly discovered law of magnetic action is manifested, is the following:—A bar of glass, composed of silicated borate of lead, two inches in length and half an inch in width and in thickness, is suspended at its centre by a long thread, formed of several fibres of silk cocoon, so as to turn freely, by the slightest force, in a horizontal plane, and is secured from the agitation of currents of air by being enclosed in a glass jar. The two poles of a powerful electro-magnet are placed one on each side of the glass bar, so that the centre of the bar shall be in the line connecting the poles, which is the line of magnetic force. If, previous to the establishment of the magnetic action, the position of the bar be such that its axis is inclined at half a right angle to that line, then, on completing the circuit of the battery so as to bring the magnetic power into operation, the bar will turn so as to take a position at right angles to the same line; and, if disturbed, will return to that position. A bar of bismuth, substituted for the glass bar, exhibits the same phenomenon, but in a still more marked manner. It is well known that a bar of iron, placed in the same circumstances, takes a position coincident with the direction of the magnetic forces; and therefore at right angles with the position taken by the bar of bismuth subjected to the same influence. These two directions are termed by the author *axial* and *equatorial*; the former being that taken by the iron, the latter that taken by the bismuth.

Thus it appears that different bodies are acted upon by the magnetic forces in two different and opposite modes; and they may accordingly be arranged in two classes: the one, of which iron is the type, constituting those usually denominated *magnetics*; the other, of which bismuth may be taken as the type, obeying a contrary law, and therefore coming under the generic appellation of *diamagnetics*. The author has examined a vast variety of substances, both simple and compound, and in a solid, liquid, or gaseous form, with a view to ascertain their respective places and relative order with re-

ference to this classification. The number of simple bodies which belong to the class of magnetics is extremely limited, consisting only of iron, which possesses the magnetic property in an eminent degree, nickel, cobalt, manganese, chromium, cerium, titanium, palladium, platinum and osmium. All other bodies, when either solid or liquid, are diamagnetic; that is, obey the same law, with regard to magnetic action, as bismuth, but with various degrees of intensity: arsenic is one of those that give the feeblest indications of possessing this property. The following exhibit it in increasing degrees, according to the order in which they are here enumerated; namely, ether, alcohol, gold, water, mercury, flint glass, tin, lead, zinc, antimony, phosphorus, bismuth. On the other hand, no gaseous body of any kind, or in any state of rarefaction or condensation, affords the slightest trace of being affected by magnetic forces. Gases may therefore be considered as occupying the neutral point in the magnetic scale, intermediate between magnetic and diamagnetic bodies.

The magnetic properties of compound bodies depend on those of their elements; and the bodies are rendered either magnetic or diamagnetic according to the predominance of one or other of these conditions among their constituent parts. Thus iron is found to retain its magnetic power when it has entered into combination with other bodies of the diamagnetic class; the two forces acting in opposition to one another, and the resulting effect being only that due to the difference in their power. Hence the oxides and the salts of iron are still in a certain degree magnetic, and the latter even when they are held in solution by water; but the water may be present in such a proportion as that neither shall prevail; and the solution, as far as respects its magnetic properties, will then be exactly neutralized. These saline solutions, prepared of various degrees of strength, also afford a convenient method of comparing the relative degrees of force, both magnetic and diamagnetic, of different bodies, whether solid or fluid, but more especially the latter, as they admit of the body under examination being suspended in another liquid, when its position of equilibrium will indicate which of the two substances has the strongest magnetic power.

In one respect, indeed, the diamagnetic action presents a remarkable contrast with the magnetic; and the difference is not merely one of degree, but of kind. The magnetism of iron and other magnetics is characterized by polarity; that of diamagnetics is devoid of any trace of polarity; the particles of two bodies of the latter class, when jointly under the influence of the magnetic forces, manifest towards each other no action whatever, either of attraction or repulsion. It has long been known that the magnetism of iron is impaired by heat; and it has been generally believed that a certain degree of heat destroys it entirely. The author finds, however, that this opinion is not correct; for he shows that, by applying more powerful tests than those which had been formerly confided in, iron, nickel and cobalt, however high their temperature may be raised, still retain a certain amount of magnetic power, of the same character as that which they ordinarily possess. From the different temperatures at which the magnetic metals appear to lose their peculiar power, it had formerly been surmised by the author, that all the metals would probably be found to possess the same character of magnetism, if their temperature could be lowered sufficiently; but the results of the present investigation have convinced him that this is not the case, for bismuth, tin, &c., are in a condition very different from that of heated iron, nickel or cobalt.

The magnetic phenomena presented by copper and a few other metals are of a peculiar character, differing exceedingly from those exhibited by either iron or bismuth, in consequence of their being complicated with other agencies, arising from the gradual acquisition and loss of magnetic power by the iron core of the electro-magnet, the great conducting power of copper for electric currents, and its susceptibility of being acted upon by induced currents of magneto-electricity, as

described by the author in the first and second series of these researches. The resulting phenomena are to all appearance exceedingly singular and anomalous, and would seem to be explicable only on the principles referred to by the author.

Pursuing his inductive inquiries with a view to discover the primary law of magnetic action from which the general phenomena result, the author noticed the modifications produced by different forms given to the bodies subjected to experiment. In order that these bodies may set either axially or equatorially, it is necessary that their section, with reference to the plane of revolution, be of an elongated shape: when in the form of a cube or sphere, they have no disposition to turn in any direction: but the whole mass, if magnetic, is attracted towards either magnetic pole; if diamagnetic, is repelled from them. Substances divided into minute fragments, or reduced to a fine powder, obey the same law as the aggregate masses, moving in lines which may be termed *diamagnetic curves*, in contradistinction to the ordinary magnetic curves, which they every where intersect at right angles. These movements may be beautifully seen by sprinkling bismuth in very fine powder on paper, and tapping on the paper while subjected to the action of a magnet.

The whole of these facts, when carefully considered, are resolvable, by induction, into the general and simple law, that while every particle of a magnetic body is attracted, every particle of a diamagnetic body is repelled, by either pole of a magnet. These forces continue to be exerted as long as the magnetic power is sustained, and immediately cease on the cessation of that power. Thus do these two modes of action stand in the same general antithetical relation to one another as the positive and negative conditions of electricity, the northern and southern polarities of ordinary magnetism, or the lines of electric and of magnetic force in magneto-electricity. Of these phenomena, the diamagnetic are the most important, from their extending largely, and in a new direction, that character of duality which the magnetic force was already known, in a certain degree, to possess. All matter, indeed, appears to be subject to the magnetic force as universally as it is to the gravitating, the electric, the cohesive and the chemical forces. Small as the magnetic force appears to be in the limited field of our experiments, yet when estimated by its dynamic effects on masses of matter, it is found to be vastly more energetic than even the mighty power of gravitation, which binds together the whole universe: and there can be no doubt that it acts a most important part in nature, and conduces to some great purpose of utility to the system of the earth and of its inhabitants.

Towards the conclusion of the paper, the author enters on theoretical considerations suggested to him by the facts thus brought to light. An explanation of all the motions and other dynamic phenomena consequent on the action of magnets on diamagnetic bodies, might, he thinks, be offered on the supposition that magnetic induction causes in them a state the reverse of that which it produces in magnetic matter: that is, if a particle of each kind of matter were placed in the magnetic field, both would become magnetic, and each would have its axis parallel to the resultant of magnetic force passing through it; but the particle of magnetic matter would have its north and south poles opposite to, or facing the contrary poles of the inducing magnet; whereas, with the diamagnetic particles, the reverse would obtain; and hence there would result, in the one substance, approximation; in the other, recession. On Ampère's theory, this view would be equivalent to the supposition that, as currents are induced in iron and magnetics, parallel to those existing in the inducing magnet or battery wire, so, in bismuth and other diamagnetics, the currents induced are in the contrary direction. As far as experiment yet bears upon such a notion, the inductive effects on masses of magnetic and diamagnetic metals are the same.

2. *Researches on the Relations of Light and Magnetism*; by M. FARADAY, Royal Institution, Jan. 23—(Athenæum,

No. 953, Jan. 31, 1846, p. 126.)—We shall confine ourselves to the method by which Prof. Faraday exhibited the great fact of his researches—the *rotation of a ray of light by magnetic force*. The well known oxy-hydrogen light of Drummond supplied the ray. This light was so directed by an arrangement furnished by Mr. Darker, as to make distinctly visible over the whole theatre, all the phenomena of circular polarization which were required to illustrate Prof. Faraday's newly discovered principle. A beam of common light was shown to be separable into two distinct rays of polarized light; and the properties of these, and their relation to each other, were repeatedly demonstrated to the spectators. Such being the subject of his operations, Prof. Faraday next exhibited the nature and extent of the force employed to accomplish his results. That force is magnetism derived from an electro-magnet of immense size and power. The magnet used was a half link of the former East India moorings, surrounded by several coils of thick copper wire, and the source of electric power was Grove's battery, about twenty cells of which were employed on this night. To give an idea of the force of this electro-magnet, Prof. Faraday mentioned that once, while he was at work in the laboratory, an iron candlestick which happened to be standing on the table near its poles, instantly flew to them, attracted with such violence as to displace or break every thing in its way. The great experiment of the evening was then successfully tried. A prism of heavy glass was so adjusted between the poles of the magnet, as to receive the oxy-hydrogen light after it had been polarized, and before it was depolarized by Nicholl's eye-piece. The following facts, demonstrating the magnetism of light, were then exhibited:

1. As to the *rotation of the ray*.—A polarized ray, having been extinguished by the depolarizing plate, was instantaneously restored when the magnetic current was sent through the prism through which the ray was transmitted: and conversely, the polarized ray, when, by the common adjustments of the plate, it had been made visible, was extinguished by the force of the current.

2. As to the relations of this electro-magnetic power to other laws of polarized light.—The rotation having been established, it was shown, that the direction of the rotation was absolutely dependent on that of the magnetic force. That, while in common circular polarization, the ray of light always rotates in the same direction *with regard to the observer*, (to whatever part of the medium his view may be directed,) it is very different in the state of the ray induced by this new force. When brought under the influence of the magnetic current, polarized rays always rotate in a constant direction with respect, *not to the observer, but to the plane of the magnetic curves*.

Prof. Faraday concludes, by throwing out some general notions as to the possible development of these researches in the line of future investigations. It did not seem impossible to him, that the sun's rays might be found to originate the magnetic force of the earth, and the air and water of our planet might be proved to be the diamagnetic media in which this condition of the force was eliminated.

M. Pouillet has repeated the experiments of Faraday, and communicated a report to the Academy of Sciences of Paris, (L'Institut, No. 630.) He is of the opinion that the phenomena are due to action on the transparent medium, or upon the forces which govern its molecules, and not on the luminous ray itself.—*Amer. Jour. of Science and Arts*, May, 1845.

#### GRADUAL RISE OF NEWFOUNDLAND ABOVE THE SEA.

(Jameson's Jour. Jan. 1846.)—It is a fact worthy of notice, that the whole of the land in and about the neighbourhood of Conception Bay, very probably the whole island, is rising out of the ocean at a rate which promises, at no very distant day, materially to affect, if not to render useless, many

of the best harbours we have now on the coast. At Port de-Grave a series of observations have been made, which undeniably prove the rapid displacement of the sea-level in the vicinity. Several large flat rocks, over which schooners might pass some thirty or forty years ago with the greatest facility, are now approaching the surface, the water being scarcely navigable for a skiff. At a place called the Cosh, at the head of Bay Roberts, upwards of a mile from the sea-shore, and at several feet above its level, covered with five or six feet of vegetable mould, there is a perfect beach, the stones being rounded, of a moderate size, and in all respects similar to those now found in the adjacent land-washes.—From the *Newfoundland Times*.

*To keep Iron-Filings from Rusting.*—(Pharmaceutisches Cent Blatt, 1845, p. 495.)—Iron filings, even in well-stopped bottles, will rust; in order to prevent this, M. Riegleini rubs up the filings with an equal weight of dry sugar, when they can be kept, even in paper, for a great length of time without rusting.

*To prevent Extracts and Plasters from Moulding.*—(Pharmaceutisches Cent. Blatt, 1845, p. 512.)—M. Guliemo, in order to prevent the mould that forms upon the surface of extracts, has been in the habit, for fifteen years, of covering the surface with a layer of refined sugar about the tenth of an inch thick, before tying up the jar. The sugar crystallizes upon the surface, and prevents any change taking place there. Some plasters, such as *empl. conii, cantharid., hyosc., melilot*, are particularly subject to mould.

*Adulteration of Iodine.*—(Jahrb. für Prakt. Pharm. xi, p. 35, and Chem. Gaz., January, 1846, p. 47.)—M. Herberger draws attention to the fact, that with the present high price of iodine, sophistications are uncommonly frequent. Thus he found in one sample native sulphuret of antimony. But the adulteration with artificial graphite is far more deceptive; it may, however, be readily detected by driving off the iodine at a gentle heat, and subsequently raising the temperature with access of air. In one instance the author found no less than 51 per cent. of graphite.

*Disinfection of Bodies for Anatomical Purposes.*—(Lond. Med. Gaz., Feb. 1846, p. 262.)—We learn from a report in a late number of the *Gazette Médicale*, that a new method has been discovered for the preservation of dead bodies. The subjects used for dissection at the *Ecole Pratique* have been preserved by this process, and so perfectly had it succeeded, that the bodies were in exceedingly good condition, after having been in the hands of the pupils for several weeks. The plan consists in injecting into the arteries a strong solution of the sulphite of soda in water. Putrefaction is thereby arrested for several weeks, and, for further preservation, lotions of the chloride of zinc may be used. When subjects are thus treated, the organs preserve their form and natural colour; the steel instruments used in dissection undergo no change, and there is no smell even at a short distance from the body. This important result is likely to have a beneficial influence on the health of medical pupils, and on the pursuit of anatomy.—We cannot answer for the success of this plan, but the reporter speaks most confidently of it. The sulphite of soda probably acts by absorbing oxygen and becoming converted to sulphate. The sulphite is easily made by passing sulphurous acid gas (obtained by boiling copper-clippings in oil of vitriol) into a saturated solution of carbonate of soda, until effervescence ceases.

*Preservation of Lunar Caustic.*—(Journ. de Pharm., vol. xlii, p. 320.)—Duméril covers the sticks of caustic with a layer of sealing-wax, containing a large proportion of shell-lac, which adheres strongly to it. These sticks may then be used just like pencils; the end to be used only requires to be uncovered with a penknife.—*Southern Journal of Medicine and Pharmacy*.

*Discovery of another new metal.*—Professor Claus, in the *Chemical Gazette*, Feb. 1845, announces the discovery of a new platinumoid metal, to which he has given the name of Ruthenium. It is associated with native platinum, and is procured from what is called the platinum residue, obtained after treating the platinum by nitro muriatic acid, in which it exists along with Osmium and Iridium.—*American Journal of Science and Arts*, Jan. 1846.—*Ranking's Abstracts*.

PREPARATION OF TINCTURE OF ACONITE.

In an inaugural dissertation for the degree of M. D. at the University of Edinburgh, "on the physiological and medicinal properties of the *aconitum napellus*," by Dr. Fleming, the following formula for the preparation of the tincture is recommended.

"Take of the root of the *aconitum napellus*, well dried and pounded sixteen ounces troy, rectified spirits sixteen fluid ounces; macerate four days, strain and add spirit till twenty-four ounces are obtained.

This tincture is beautifully transparent, and of a slightly bitter taste. Dose as an *anodyne, antineuralgic and calmative*, *M. v.* three times a day, increased daily by *M. j.* per dose. As an *antiphlogistic M. v.* repeated four hours after the first dose. In order to sustain the sedative effects thus induced *M. ii. ss.* are to be given every three or four hours. The author cautions the practitioner that in exhibiting the drug, after this plan, the patient ought to be seen and his pulse examined before each dose; if it cannot be done, he advises that it should be given as in the anodyne method above mentioned. The tincture has been used externally by the author, rubbed on the affected part.

## British American Journal.

MONTREAL, JUNE 1, 1846.

### THE MEDICAL BILL.

This Bill, which we anticipated at the commencement of this Session of the Provincial Parliament, would ere now have received viceregal sanction, has been farther postponed to the succeeding Session. We view this postponement as a judicious measure; it was the only means of paralysing the opposition manifested to the Bill by those who advocate an increased, and an inevitably increasing number of interested licensing boards for the Province, a sure result which would have been ruinous to the best interests of the Profession generally. In the meanwhile the Profession of Canada must be acting in the matter; they *must* utter their sentiments to the next Legislature, and they must speak them boldly and undisguisedly. The question at issue is one of vital moment, and must not be neglected. Its importance we have fully exhibited in our previous number; and confident in the validity and soundness of the arguments which we have employed, we feel assured we shall be supported in the position which we have assumed. We speak for the general good of the Profession, and not for the advantage of any particular party. Our convictions are dispassionate, and deliberate, and we firmly believe that the pretensions which we have exposed, would not be supported by a large number of even the French Canadian practitioners.

### COLLEGE OF PHYSICIANS & SURGEONS OF UPPER CANADA.

—We received, a short time before the last number of our Journal was published, from the Secretary of the Toronto Medico-Chirurgical Society, a copy of the Petition of that body to the two Houses of the Legislature, for the purpose of incorporating a College of Physicians and Surgeons in Upper Canada. The crowded state of our columns prevented us at that time from giving insertion to the Petition, and doing so now would be superfluous, as a Bill has been introduced by Mr. Solicitor General Sherwood based upon it, to which we now give publicity in another place, and which is an embodiment of the sentiments conveyed in the Petition. Against the principle of the Bill, we are not aware that any opposition will be offered. The profession in Canada West are agreed upon that point so far as we understand; we would that we could say as much in reference to the Medical Bill which would have operated in this section of the Province. In unanimity, the Upper Canadians have set an example to the Lower Canadians, which it would be highly desirable that the latter should at least appear to imitate. In all such cases, as the ostensible benefit of legislation is direct public benefit, every selfish feeling and sentiment should yield, and give place to a pure feeling of patriotism. Much as we regret to say it, the events of a few years have disclosed a gradually widening line of separation between the Anglo and Franco-Canadian practitioners of this part of the Province. We sincerely deplore it. It is an event which can be attended with no possible advantage or interest to either party; but, on the contrary, will be surely followed by most serious results—results which affect less the profession than the public, who will be in reality the sufferers. But the causes which have tended, and are tending to that result, open a field for consideration, to which we shall probably recur in some future number.

UNITED STATES NATIONAL MEDICAL CONVENTION.—We copy from the Boston Medical and Surgical Journal the following condensed report of the proceedings of the Convention. It will be observed that the Schools of Philadelphia have taken no part whatever in the proceedings; in fact, they have positively declined all activity in the matter: but we doubt not, from the celebrity which they have deservedly acquired, and their known zeal in the cause of science, that when once a higher standard of professional acquirement is proclaimed by the voice of the profession over the country, they will not be the last to follow it up:—

National Medical Convention.—The delegates to this Convention met at the Medical College of the University of New York on Tuesday May 5. At the preliminary organisation,



Dr. Bell of Philadelphia, was Chairman, and Dr. Buel, of New York, Secretary. The committee appointed to examine the credentials of the delegates, reported that all accredited delegates from any regularly organized society, local and voluntary associations as well as regular colleges, institutions and societies, be considered members of the convention, which report was accepted. Sixteen States were found to be represented (by delegates from State or other societies), and a committee of one from each State was appointed to nominate officers to the Convention, who presented the following nominations, which were unanimously confirmed, viz.: For President, Dr. J. Knight, of New Haven, Conn.; for Vice-Presidents, Dr. Edward Delafield, of New York City, and Dr. John Bell, of Philadelphia; for Secretaries, Dr. Arnold, of Savannah, Geo., and Dr. Stille, of Philadelphia. Dr. G. S. Bedford, representing the University of New York, then moved that whereas the original object of the Convention, that of a *National* representation, for the good of the profession, had been defeated by the non-representation of many of the States, and most of the Medical Colleges and Societies, the Convention adjourn, *sine die*. This motion was seconded by Dr. Paterson, also of the New York University. The vote was taken individually, and not by States, and was decided by yeas 2; nays, 74. On account of this motion, Dr. Clymer, of Philadelphia, moved that the future sittings of the Convention be held elsewhere than at the University College; and another member proposed an amendment, that an adjournment immediately be made to the College of Physicians and Surgeons. Drs. Bedford and Paterson disclaimed all intention of opposing the Convention, and it was decided that Dr. Clymer's motion be laid on the table. A committee of nine was appointed to bring the subject of Medical Education before the Convention, consisting of Drs. Davis, March, Hayes, Walter, Bush, Bell, Haxhall, and the President.

The accredited delegates present on Tuesday were from the following institutions:—Vermont—Castleton Medical College, Vermont Medical College; N. Hampshire—Centre District Medical Society; Connecticut—State Medical Society and Medical Institution of Yale College; New York—State Medical Society, Medical Society of City and County, Bloomingdale Asylum, College of Physicians and Surgeons, King's Co. Medical Society, University of the City of New York, Buffalo Medical Association, Erie Co. Medical Society, Albany Medical College, Geneva Co. Medical Society, Geneva Medical College, Madison County Medical Society, New York Hospital; Pennsylvania—Philadelphia Medical Society, Pennsylvania College; New Jersey—private individuals; Delaware—State Medical Society, Medical Association of Wilmington; Maryland—Medical College of Baltimore; Virginia—State Medical Society; Georgia—State Medical Society; Mississippi—State Medical Society; Indiana—La Porte University; Illinois—Medical Department of Illinois College; Tennessee—State Medical Society; Rhode Island—State Medical Society. And on Wednesday, the State Medical Societies of Vermont and Missouri were represented, also the Lunatic Asylum of Hudson and the New York Lunatic Asylum.

The following resolutions were presented on Wednesday by Dr. Davis, of the Committee on Medical Education, and after discussion were unanimously adopted:—

"Whereas it has been shown by experience that the association of persons engaged in the same pursuit, facilitates the attainment of their common objects; therefore,

"1st. Resolved, that it is expedient for the Medical Profession of the Universities, to institute a *National Medical Association*, for the protection of their interests, for the maintenance of their honour and respectability, for the advancement of their knowledge, and the extension of their usefulness.

"2d. Resolved, that a Committee of seven be appointed to report a plan of organization for such an association, at the

meeting to be held in Philadelphia, on the first Wednesday in May, 1847.

"3d. Resolved, that a Committee of seven be appointed to prepare and issue an Address to the different regularly organized Medical Societies, and chartered Medical Schools, in the United States, setting forth the objects of the National Medical Association, and inviting them to send delegates to a Convention, to be held in Philadelphia on the first Wednesday in May, 1847.

"4th. Resolved, that it is desirable that a uniform and elevated standard of requirements for the degree of 'M.D.' should be adopted by all the Medical Schools in the United States, and that a Committee of seven be appointed to report on this subject, at the meeting to be held in Philadelphia, on the first Wednesday in May, 1847.

"5th. Resolved, that it is desirable that young men, before being received as students of medicine, should have acquired a suitable preliminary education, and that a Committee of seven be appointed to report on the standard of acquirements, which should be exacted of such young men, and to report at the meeting, to be held on the first Wednesday in May, 1847.

"6th. Resolved, that it is expedient that the Medical Profession in the United States should be governed by the same code of Medical Ethics, and that a Committee of seven be appointed to report a code for that purpose, at a meeting to be held in Philadelphia, on the first Wednesday in May, 1847."

Dr. O. S. Bartles, of New York, offered the following resolution, which, after considerable discussion, was referred to a committee of seven, by a vote of 58 to 23.

"Resolved, that the Union of the business of teaching and licensing, in the same hands, is wrong in principle, and liable to great abuse in practice. Instead of conferring the right to license on medical colleges, and State and county medical societies, it should be restricted to one board, in such State, composed, in fair proportion, of representatives from the medical colleges, and the profession at large, and the pay for whose services, as examiners, should, in no degree, depend on the number licensed by them."

The Chairman announced the various committees on Dr. Davis's resolutions—as follows:—

"On the Organization of the National Medical Institution"

—Drs. J. Watson, Stearns, Campbell Stewart, Stille, Davis, Cogswell, Fenner.

"On the Address"—Drs. Knight, Ives, Dow, Sumner, McNaughton, Blatchford, Boswell, Baxley.

"On the Requirements for a Degree"—Drs. Haxhall, Cullen, Paterson (Va.), Norris, Flint, Perkins, Wing.

"On Preliminary Education"—Drs. Cowper, Bush, Thompson (Del.), March, Atlee, Brainard, Mead.

**UNIVERSITIES IN FRANCE GRANTING AD PRACTICANDUM DIPLOMAS.**—The following extract, from a report of the proceedings of the Medical Convention held in Paris last November, taken from the last number of the New York Journal of Medicine, and copied from the *Lancet*, will correct an error into which we had unintentionally fallen in an article in our previous number, containing the statistics of the ratio of Schools of Medicine granting *ad practicandum* diplomas to the population:—

"The medical profession in France, as far as medicine and surgery are concerned, constitutes part of the University of France, which is itself under the jurisdiction of the Minister of Public Instruction. The University of France is composed of five faculties, the faculty of theology, the faculty of sciences, the faculty of arts (letters), the faculty of law, and the faculty of medicine. Some of these faculties are multiple. Thus there



are three distinct faculties of medicine, those of Paris, Montpellier and Strasburg. The three faculties of medicine all present the same organization, with the exception that the one in Paris has a larger number of professors, and is more efficiently composed than the other two. They all examine and grant degrees. In addition, there are a number of secondary medical schools in the large provincial towns, the certificates of which are received for part of the curriculum, but which have no power to examine or to give diplomas. The degrees awarded by the faculties of medicine are those of doctor in medicine, doctor in surgery, and officer of health (*officier de santé*)."

**PROFESSORSHIP OF ANATOMY IN THE UNIVERSITY OF EDINBURGH.**—By private letters, we have received intelligence of the appointment of Mr. Goodsir to the above Chair, vacant by the retirement of Professor Munro. We look upon the appointment of Mr. Goodsir as a propitious one for the University. Dr. Handyside, who is worthily supplying Mr. Knox's place in Edinburgh, was his only opponent at the time of the election, which rests with the City Council.

**MONTREAL GENERAL HOSPITAL.**—The election at the meeting of Governors for the election of officers to this Institution, on the second Tuesday of May, for the situation of attending Physician, vacant by the decease of the late Dr. MacNider, resulted in favour of Dr. MacDonnell. The medical staff of the Hospital, is now composed as follows: A. F. Holmes, M. D., Consulting Physician; attending Physicians, O. T. Bruneau, M. D., A. Hall, M. D., G. W. Campbell, M. D., S. C. Sewell, M. D., J. Crawford, M. D., and R. L. MacDonnell, M. D.; House Surgeon, Alex. Long, M. D.; Apothecary, G. D. Gibb, M. D. The average number of in-door patients treated at this Hospital for the last three years, is 1449—and the annual number of out-door patients is estimated at about double that amount.

**GRADUATION AT THE UNIVERSITY OF M'GILL COLLEGE IN THE FACULTY OF MEDICINE.**—On Monday, May 25, the day appointed by the Statutes, the following gentlemen were admitted to the degree of Doctor of Medicine and Surgery:—

Peter H. Church.—Aylmer, C. W. Acute Laryngitis in Epidemic form on the Rideau Canal.  
George Duncan Gibb.—Montreal. On Morbid States of the Urine.  
Henry Paradis.—Yamaska. On Tubercle in the Lungs.  
George Augustus Scriven.—Montreal. Abortion.  
James J. Dickinson.—Cornwall, C. W. The natural and Medical History and Curative action of Mercury.  
Alfred Malhiot.—Vercheres. On the Physiology and Pathology of Serous Membranes.  
William Kelly, Surgeon, R. A. Pneumonia with Delirium.  
T. Willbod Wilsam, Montreal—Variola.  
Andrew H. Staunton, Assistant-Surgeon R.A.—Ptosis.  
Stephen S. Foster, Shefford—Scarlatina.  
Adam T. Jackson, Staff Surgeon—Apoplexy.

**PROVINCIAL MEDICAL BOARDS.**—List of gentlemen who passed their examinations at the May meeting of the Montreal Medical Board:

1.—As Physicians, Surgeons, and Accoucheurs.

Peter McDougall, Darby Bergin,  
Edward Barry, Geo. A. Purvis,  
Jas. J. Beemer, Alfred Bowlby.

James A. McKay.

2.—As Apothecaries.

B. Workman, C. T. Sims, and Geo. Harding.

At the Quebec Medical Board, May Meeting, as Physicians, Surgeons, and Accoucheurs.

Benjamin Jameson, Thos. McGrath, L. T. Sinclair,  
W. H. Ellsworth, Brock Carter, I. F. X. Beigne, E.  
W. Poisson, Gabriel L'Etourneux and David Delisle.

CORRESPONDENCE.

THE PRESENT CONDITION OF THE PROFESSION OF MEDICINE COMPARED WITH THAT OF THE LAW, &c.

(To the Editors of the British American Journal.)

**GENTLEMEN.**—In almost all communities, and in every age, there have been found individuals and classes of men, who seem, by some strange fatality, to have been doomed to a state more or less perfect of Helotage in relation to the rest of society, and, strange and unnatural as it may appear, it is nevertheless true, that, in our own times, this reproach is shared by two classes of persons, each in its separate sphere occupying a conspicuous place among the benefactors of mankind. The reader will scarcely fail to recognise as the representatives of these classes, the *Physician and the man of letters*.

As I bear no relationship to the "gifted sons of genius," it would be an act of presumption on my part to meddle in any way with their affairs; nor are they any longer amenable to the censure I propose to pass upon the former, inasmuch as they have lately endeavoured, in a manly, straight forward, and rational manner, to obtain from the world a recognition of their right to enjoy permanently the fruit of their own labour, though, as yet, the effort has proved only partially successful!

"Help yourself, and the Lord will help you," is a time-honoured precept: it must have been one of the first lessons taught by experience. It is certainly one of those the breach or the observance of which is of the greatest importance in the business of life. Believing, as I do, that the degraded state of the medical man, may be traced to the breach, the prosperous condition of the lawyer, the divine, and others, in a great measure, to the observance of this maxim, and in the hope that this view of the case, if well sustained, either by direct or analogical evidence, may assist to arouse the slumbering energies of my brethren, I shall endeavour to furnish your readers with a short but faithful description of the respective professional positions of the member of the bar, and the physician, and surgeon, in this part of Canada. It is scarcely necessary to go beyond the limits of this city for materials to fill up the picture; the family likeness is strongly marked everywhere. We learn from the statistics of Toronto, that there are within its boundaries at the present time, thirty regular practitioners of medicine and surgery, and about eighty barristers and attorneys at law. The whole population, according to the last census, amounts to 20,000, or thereabout, and if we add to this number the in-

cidental practice of the rural districts in the neighbourhood, the number of medical men, though large, does not appear altogether out of proportion to the population; but alas! we have also twenty unauthorised practitioners, in the shape of druggists, apothecaries, venders of nostrums from the United States, and quack doctors par excellence: the consequences resulting from this state of things, are, of course, most injurious to the *privileged*? practitioner; shall we ascribe them to the ignorance and credulity of the public, or to the apathy of the victim? I shall revert to this question on another occasion.

Turn we now to the lawyers:—what an imposing phalanx! Yes, we have domiciled among us more than eighty cheerful and comfortable looking gentleman, who sport the Toga, attended, too, by their clients; although the retinue of some individuals may be small, yet there are few, I believe, who cannot boast of some followers; but then there are no *illicit* lawyers; these children have taken special care that *their* bread shall not be cast to dogs. The pettifogger, that embodiment of impudence, and a certain other quality common to all impostors, has disappeared from the stage. Let the reader follow me to a stately temple, and behold another evidence of their prosperity; let him examine its architecture, its beautiful proportions and magnitude, and tell me if there is any other public edifice in British America that can bear a comparison with Osgood Hall, the *Palatium Principitum Legis*. This structure was erected by the incorporated members of the bar of Upper Canada. I am not writing in the spirit of envy; very far from it: on the contrary, I wish to do honour to the energy and perseverance, the gentlemanlike unanimity, and freedom from individual selfishness and jealousy that characterise the members of this noble profession—qualities that have obtained for them the undisputed possession of all the privileges that of right belong to them, and all those substantial advantages that follow in their train: it would have been strange indeed, if the united influence of such qualities had failed of its object. Permit me to proceed with my contrast.

The Profession of Medicine is recognised in the laws of the land; and the recognition is accompanied with the concession of certain privileges: The infirmities of the species here, as elsewhere, render the existence of such a profession indispensable. Its members are not inferior in point of education to any other class of men: they are quite as zealous in the pursuit of knowledge; not less industrious, nor less faithful in the performance of their duties than the lawyer or the divine.

Yet while this kind of equality is generally acknowledged, they are denied an equality of rights: the laws enacted ostensibly for *their* protection, have proved a protection to the quack, and an encouragement to the sale of nostrums, manufactured in the United States for the Canadian market. The bill at present before the House is scarcely less objectionable than the old act; witness the clause for the regulation of the practice of midwifery by women in country places, where the woman is permitted to seek what she might not be able to obtain in her own, or the adjoining parish, in a remote part of the district: witness the clause for the suppression of illicit practice (clause 12) where the offender may evade the penalty by refusing payment until after the expiration of three months from the commission of the offence. Though other faults might be pointed out, these are sufficient to condemn the bill.

Since the foregoing was written, I have been favoured with a printed copy of a Bill to Incorporate a College of Physicians and Surgeons in Upper Canada; here the desideratum is almost supplied. Two or three trifling alterations and additions would make it perfect: for instance, in clause IV. the payment of a fee of £5 by every newly created fellow would be advisable, and in clause X. the erasure of the word "fellow," where it occurs in the 3rd line\*, and the re-

duction of the fee of admission for a member, to £1 10s, or £2, would meet with general approval. Then the total erasure of the last provision of the IXth clause (this, indeed, must have been an oversight), and the adoption of a clause to regulate the practice of midwifery by women would be an important amendment. But alas! even this measure has found opponents already, and there is but too much reason to fear that it may share the fate of every preceding endeavour to ameliorate our condition. The petty jealousies of some five or six individuals (formerly members of the *Medico-Chirurgical Society*, but who, while under the influence of private pique, thought proper to separate themselves from it) have been called into play by the circumstance of their being no longer in a situation to participate in the immediate benefits that would accrue to their old associates from the passage of the bill, and they are now actually engaged in an attempt to arrest its progress. What a lesson do these facts furnish! Is it possible to doubt, with such evidence before us, that the principal cause of all the grievances we complain of, may be traced to ourselves? Why, the very fact that the bill now under consideration was never subjected to the supervision of the Society, or any member of it, is of itself a pretty convincing proof that the accusation is just.

*To be continued.*

M. B., M.R.C.S.E.

Toronto, May 25, 1846.

#### BILL.

An Act to incorporate a College of Physicians and Surgeons in Upper Canada.

Whereas John King, M. D., President of *The Toronto Medico-Chirurgical Society*, and George R. Grasset, L. M., Secretary of the said Society, acting on behalf of the said Society, have by their Petition amongst other things, represented that the laws now in force in that part of this Province called Upper Canada, regulating the practice of the *Medical Profession*, and for the prevention of persons practising without License, have been found very inadequate, and have prayed that such alterations and amendments may be made in the existing laws as may be most conducive to the interests of the *Medical Profession* and the public at large; And whereas it is highly desirable that the Profession of *Medicine* in Upper Canada should be placed upon a more respectable and efficient footing, and that a more summary mode should be provided for the conviction and punishment of persons practising without a License: Be it therefore enacted, &c.

And it is hereby enacted by the authority of the same, That the Act of the Legislature of Upper Canada passed in the fifty-ninth year of the Reign of His late Majesty King George the Third, intituled, "*An Act to repeal an Act passed in the fifty-fifth year of His late Majesty's Reign, intituled, 'An Act to License Practitioners in Physic and Surgery throughout this Province, and to make further provision for Licensing such Practitioners,'*" and also the Act of the said Legislature passed in the eighth year of the Reign of His late Majesty King George the Fourth, intituled, "*An Act to amend the laws regulating the practice of Physic, Surgery and Midwifery in this Province,*" and all other Acts or parts of Acts or provisions of law inconsistent with the provisions of this Act, be and the same are hereby repealed.

II. And be it enacted, That the said John King and George R. Grasset, and the other present Members of *The Toronto Medico-Chirurgical Society* and their successors, to be nominated and appointed as hereinafter provided, shall be and they are hereby declared to be one body corporate and politic in deed and in law, by the name of *The College of Physicians and Surgeons of Upper Canada*, and shall have perpetual succession and a common seal, with power to change, alter, break or make new the same, and they and their successors by the name aforesaid, may sue and be sued, implead, and be impleaded, answer and be answered unto, in all or any Court or Courts of Record and places of Jurisdiction

\* The fourth line of the Bill as printed by the House.

within this province; and that they and their successors by the name aforesaid, shall be able and capable in law to have, hold, receive, enjoy, possess and retain for the ends and purposes of this Act, and in trust and for the benefit of the said College, all such sums of money as have been paid and given, or shall at any time hereafter be paid, given, devised or bequeathed by any person to and for the use of the said College, and that they and their successors by the name aforesaid, shall and may at any time hereafter without any license or mortmain, purchase, take, receive, have, hold, possess and enjoy any lands, tenements or hereditaments, or any estate or interest derived or arising out of any lands, tenements or hereditaments for the purposes of the said College and for no other purposes whatever; and may also in the same manner sell, grant, lease, demise, alien or dispose of the same, and do or execute all and singular the matters and things that to them shall or may appertain to do; Provided always, the said real estate shall at no time exceed in value the sum of \_\_\_\_\_ pounds of lawful money of this Province.

III. And be it enacted, That the said persons composing *The College of Physicians and Surgeons of Upper Canada*, as hereinbefore mentioned, and their successors, shall from and after the passing of this Act be called *Fellows of the College of Physicians and Surgeons of Upper Canada*.

IV. And be it enacted, That the Fellows of the said College and their successors, shall and may have power to elect in such manner, and from time to time from and out of the Members of the said College, such and so many persons who shall also be Fellows thereof as in their discretion they shall think fit.

V. And be it enacted, That the Fellows for the time being of the said College, be and they are hereby declared to be Governors of the said College; and that any four of them with the President, or in his absence the Vice-President, be a *quorum*, and shall have full power and authority to frame and make statutes, rules and ordinances for the government of the said College and of the Members thereof; and also from time to time by any new statutes, rules or ordinances, to revoke, renew, amend or alter all, every or any of the said statutes, rules and ordinances as to them shall seem meet and expedient: Provided always, that the said statutes, rules and ordinances, or any of them, shall not be repugnant to the laws and statutes of this Province in force in Upper Canada: Provided also, that as well for the election of a President and Vice-President, as for the confirmation of statutes, rules and ordinances as aforesaid, the Fellows not resident in the City of Toronto may vote by proxy.

VI. And be it enacted, That all persons now authorized by law or who may hereafter be authorized by law to practise Physic, Surgery and Midwifery within this Province and resident in Upper Canada, who shall comply with the provisions of this Act, shall be, and they are hereby declared to be Members of the said College of Physicians and Surgeons of Upper Canada, and shall be subject to such rules, regulations and by-laws, as may be adopted by the Fellows of the said College from time to time.

VII. And be it enacted, That the Fellows of the said College shall annually on the first Monday in January in each and every year (except the first election which shall take place on the second Monday in May in the year of Our Lord one thousand eight hundred and \_\_\_\_\_) elect from among themselves a President and one Vice-President, who shall preside in the absence of the President; and no statute, rule or ordinance shall have any effect or be binding upon the Fellows of the said College or the Members thereof until the same shall have been published thirty days in the *Upper Canada Gazette*.

VIII. And be it enacted, That the Fellows of the said College shall have power from time to time to appoint such and so many officers in the said College as they may think proper, and at their pleasure to remove the same.

IX. And be it enacted, That from and after the passing of this Act, it shall not be lawful for any person not being a Fellow or Member of the said College of Physicians and Surgeons of Upper Canada, or not actually employed as a Physician or Surgeon in Her Majesty's Naval or Military Service, to practise Physic, Surgery or Midwifery in Upper Canada for hire, gain or hope of reward; and any person who shall practise Physic, Surgery or Midwifery for hire, gain or hope of reward, not licensed as aforesaid, or not being actually employed as a Physician or Surgeon in Her Majesty's Naval or Military Service, shall upon conviction thereof before one Justice of the peace upon the oath of one credible witness, forfeit and pay the sum of \_\_\_\_\_; Provided that nothing in this Act contained shall be construed to prevent or prohibit any female from practising Midwifery in Upper Canada, or to require such female to take out such License as aforesaid.

X. And be it enacted, That no person now authorized to practise Physic, Surgery and Midwifery within this Province, shall be entitled to the privilege of becoming a Fellow or Member of the said College unless he shall first pay the sum of \_\_\_\_\_ to such person, and in such manner as the Fellows of the said College shall from time to time direct; nor until he shall conform to the rules and regulations which the Fellows of the said College may from time to time make respecting the mode of becoming Members of the said College.

XI. And be it enacted, That from and after the passing of this Act no person shall be admitted to practise Physic, Surgery and Midwifery, or either within Upper Canada, until he shall first obtain a License so to do under the seal of the said College of Physicians and Surgeons of Upper Canada, except he be a Fellow or Member of the said College of Physicians and Surgeons of Upper Canada, or except he has before the passing of this Act been licensed by the Governor, Lieutenant Governor or person administering the Government of this Province, or except he be actually employed as a Physician or Surgeon in Her Majesty's Naval or Military Service.

XII. And be it enacted, That upon the application of any person exhibiting a Diploma or License from any University in Her Majesty's Dominions, or from any College or Faculty of Physicians, or of Surgeons in the United Kingdom, as Physician or Surgeon, or a License to practise as such in Lower Canada, or a Commission or Warrant as Physician or Surgeon in Her Majesty's Naval or Military regular Services, and upon satisfying the said Fellows of the said College that he is the person named in such Diploma, License, Commission or Warrant, it shall and may be lawful for the Fellows of the said College to grant such applicant a License under the seal of the said College, to practise Physic, Surgery and Midwifery, or either, as the case may be, in Upper Canada.

XIII. And be it enacted, That it shall and may be lawful for any person while employed on actual Service in her Majesty's Naval or Military Service, as Physician or Surgeon, to practise Physic, Surgery or Midwifery in Upper Canada, without a License whilst he is so employed.

XIV. And be it enacted, That the Fellows of the said College shall, from time to time, determine and direct by some statute, rule or ordinance, the amount of fees to be paid by persons applying for a License to practise Physic, Surgery and Midwifery, or either, within Upper Canada: Provided always, that the amount to be paid shall in no case exceed the sum of five pounds.

XV. And be it enacted, That when any person shall be charged on the oath of one or more credible witness or witnesses before any Justice of the Peace, with having practised Physic, Surgery, or Midwifery in Upper Canada, for hire, gain or hope of reward, without a License, (except in the case of a female practising Midwifery,) the said Justice may summon the person charged to appear at a time and place to be named in such summons, and if he shall not appear accordingly, then (upon proof of the due service of the summons upon such person by delivering the same to him person

nally) the Justice may either proceed to hear and determine the case *ex parte*, or issue his warrant for apprehending such person and bringing him before himself or some other Justice of the Peace, or the Justice before whom the charge shall be made, may if he shall so think fit, without any previous summons issue such warrant, and the Justice before whom the person charged shall appear or be brought shall proceed to hear and determine the case.

XVI. And be it enacted, That in default of payment of any fine imposed under the authority of this Act, together with the costs attending the same within the period specified for the payment thereof at the time of conviction by the Justice of the Peace before whom such conviction may have taken place, it shall and may be lawful for such Justice of the Peace to issue his warrant directed to any Constable, to levy the amount of such fine and costs within a certain time to be in the said warrant expressed: and in case no distress sufficient to satisfy the amount shall be found, it shall and may be lawful for him to commit the offender to the Common Gaol of the District wherein the offence was committed, for any time not exceeding one month, unless the fine and costs shall be sooner paid.

XVII. And be it enacted, That no conviction under this Act shall be quashed for want of form, and no warrant of commitment shall be held void by reason of any defect therein, provided it be alleged that the party has been convicted, and there be a good and valid conviction to sustain the same.

XVIII. And whereas, for the protection of the public it is necessary that some supervision and control should be had over persons vending Medicines, and Drugs, or otherwise acting as Apothecaries within any City or Town corporate in Upper Canada: Be it therefore enacted, That the Fellows of the said College shall and may from time to time make such rules and regulations for the government and proper management of persons acting as Apothecaries, within any City or Town corporate within Upper Canada, as they may think proper, and may impose such penalty for the breach or non-observance of the same as in their discretion they may deem expedient, not exceeding the sum of pounds for any one offence, which said penalty may be enforced and collected before any Justice of the Peace, in the same manner as hereinbefore provided for the conviction and punishment of persons practising Physic, Surgery or Midwifery without a License; which said rules and regulations, before they shall be binding or effectual for the purpose of this Act, shall be published at least thirty days in the Upper Canada Gazette.

XIX. And be it enacted, That all fines and penalties levied and collected under and by virtue of this Act, shall be paid into the hands of the proper officer appointed by the said Fellows from time to time, to and for the use and benefit of the said College.

XX. Provided always, and be it enacted, That nothing herein contained shall extend or be construed to extend, to restrain the power of the Legislature at any time to repeal, alter or modify this Act in any of its provisions.

#### BOOKS, &c., RECEIVED DURING THE MONTH.

The Rejected Article, in reply to Dr. S. P. White's case of tumour of the shoulder, in the May number of the New York Journal of Medicine, with introductory remarks, containing a true statement of the facts in relation to that case. By A. L. Cox, M. D., New York.

Stockton's Dental Intelligencer, Vol. ii, Nos. 5 and 7.

Boston Medical and Surgical Journal, Nos. 13, 14, 15, 16, 17.

Barker's Canadian Magazine, Vol. i, No. 1.

Dublin Medical Press, April 8, 15, 22, 29.

Provincial Medical and Surgical Journal, April 8, 15.

American Journal of Science and Arts, Vol. i, No. 3.

The Medical Examiner, Philadelphia, Nos. 14, 15, 16, 17.

The Journal of Health and Monthly Miscellany; edited by W. M. Cornell, M. D., Boston. Vol. i, Nos. 1 to 5.

The Northern Journal of Medicine, Edinburgh, Nov., Dec., Jan. and Feb. Nos.

Buffalo Medical Journal, Vol. 1, No. 12.

Southern Journal of Medicine and Pharmacy, Vol. i, No. 1 and 3.

New York Medical and Surgical Reporter, Vol. i, No. 16.

The New Orleans Medical and Surgical Journal, Vol. 2, No. 6.

Third Annual Report of the Managers of the State Lunatic

Asylum, made to the Legislature, Jan. 23, 1846, Albany.

Illinois and Indiana Medical and Surgical Journal, Chicago.

Illinois, Vol. i, No. 1.

Illustrated Botany; edited by John B. Newman, M. D., New York, Vol. i, Nos. 1, 2 and 3.

New York Journal of Medicine and the Collateral Sciences, May.

The Missouri Medical and Surgical Journal, Vol. i, No. 12.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR MARCH AND APRIL, 1846.

Dr. CRAWFORD, } Attending Medical Officers.  
Dr. SEWELL, }

##### DISEASES AND ACCIDENTS.

Abscessus, . . . . .	2	Hypochondriasis, . . . . .	1
Ambustio, . . . . .	1	Icterus, . . . . .	2
Amemorrhœa, . . . . .	2	Iritis, . . . . .	1
Acne Rosacea, . . . . .	1	Lupus, . . . . .	1
Accouchment, . . . . .	1	Morbus Cordis, . . . . .	3
Ascites, . . . . .	3	Neuralgia, . . . . .	1
Bronchitis, . . . . .	4	Cedema, . . . . .	3
Catarrhus Senilis, . . . . .	1	Ophthalmia, . . . . .	4
Vesicae, . . . . .	1	Orchitis, . . . . .	1
Caries Spinalis, . . . . .	1	Paralysis, . . . . .	1
Os Nasi, . . . . .	1	Pernio, . . . . .	1
Compressio Cerebri, . . . . .	1	Phthisis, . . . . .	6
Conjunctivitis, . . . . .	3	Plethora Cerebri, . . . . .	1
Contusio, . . . . .	5	Pleurodynia, . . . . .	1
Delirium Tremens, . . . . .	1	Pneumonia, . . . . .	3
Diarrhœa, . . . . .	1	Psoriasis, . . . . .	2
Dyspepsia, . . . . .	4	Rheumatismus, . . . . .	9
Dysenteria, . . . . .	1	Rubeola, . . . . .	3
Dysuria, . . . . .	1	Scarlatina Anginosa, . . . . .	6
Eczema, . . . . .	2	Scirrhus, . . . . .	1
Erysipelas, . . . . .	1	Sciatica, . . . . .	1
Febris Com. Con., . . . . .	13	Scrofula, . . . . .	2
Typhoides, . . . . .	8	Subluxatio, . . . . .	1
Intermittens, . . . . .	3	Syphilis, . . . . .	3
Fractura, . . . . .	2	Sychois, . . . . .	1
Gelatio, . . . . .	2	Tumor, . . . . .	1
Gastrodynia, . . . . .	1	Uleus, . . . . .	4
Hematemesis, . . . . .	1	Urticaria, . . . . .	1
Hypertrophia Cordis, . . . . .	2	Variola, . . . . .	3
Hepatitis, . . . . .	1	Varix, . . . . .	1
Hysteria, . . . . .	1	Verminalio, . . . . .	1

Total, 142

Remained, . . . . .	104	Discharged, . . . . .	164
Admitted, . . . . .	142	Irregular, . . . . .	2
		Died, . . . . .	8
		Remaining, . . . . .	72

Total, . . . . . 246

##### IN-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . . 125

Immigrants, . . . . . 14

Seamen, . . . . . 1

Soldiers, . . . . . 2

Total, . . . . . 142

Males, . . . . . 96

Females, . . . . . 46

Total, . . . . . 142

##### OUT-DOOR PATIENTS TREATED.

Belonging to Montreal, . . . . . 440

Immigrants, . . . . . 29

Total, . . . . . 469

Males, . . . . . 240

Females, . . . . . 229

Total, . . . . . 469

ALEXANDER LONG, M.D., House Surgeon.

THE  
**BRITISH AMERICAN JOURNAL**  
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Vol. II.]

MONTREAL, JULY, 1846.

[No. 3

**OBSERVATIONS ON THE NATURE AND TREATMENT OF VARIOUS DISEASES,**

BY ROBERT L. MACDONNELL, M.D.,

*Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland; Lecturer on the Institutes of Medicine, McGill College; Physician to the Montreal General Hospital; Consulting Physician Montreal Eye Institution.*

**No. I.—ON THE UTILITY OF ELECTRO-GALVANISM IN AMENORRHOEA AND DYSMENORRHOEA.**

Although Electro-galvanism has been for some years past employed in Europe,\* in cases of amenorrhœa and dysmenorrhœa, yet I believe I am correct in stating that it was never used in Montreal until introduced by me, within the last year.

Having been requested to meet a physician of this city, in consultation in a case in which I recommended a trial of electro-galvanism, in order, if possible, to induce a return of the catamenia, he mentioned that he had no experience of the remedy, or of the class of cases in which it should be employed, or of the method of employing it; and, as many of my readers may be similarly circumstanced, I have thought that a few practical remarks on the utility of this agent, and on the peculiar cases to which it is suited, would not be useless or uninteresting.

In an early number of Guy's Hospital Reports, Dr. Golding Bird published a paper shewing the value of electro-galvanism in various diseases; and, amongst others, in derangements of the uterus. Since then, it has been extensively employed in Dublin by Drs. Graves and Stokes, and other eminent physicians; and whilst acting as clinical assistant to those gentlemen, as well as in my own practice, both in Dublin and in this city, I have had many opportunities of witnessing its good effects in these troublesome diseases.

The practitioner often meets with instances where females have suffered for months, and even years, from complete arrest of the menses, or from their being secreted scantily, and with difficulty and pain, or where the discharge comes on abundantly and without pain at one time, whilst at the next period the patient suffers excessively, and scarcely any discharge presents itself; and in

another class, severe dysmenorrhœa has existed for years before the physician is consulted. Now, there are not, perhaps, any diseases in which the ordinary courses of treatment are more unsuccessful; for long before we are consulted, the usual effects of such derangements have become well marked upon the constitution; the system has become reduced and debilitated; and the ordinary features of chlorosis or hysteria have become well established. In such cases, our treatment, however judicious, often fails completely; and we not unfrequently meet with disappointment, from the difficulty of enforcing on our patients an exact observance of our directions as to medicines, exercise, diet, &c. In other cases, the constitutional symptoms have preceded the uterine derangements, but in both, it often happens, that the disease becomes more and more confirmed; and little or no benefit being derived from the advice of the regular practitioner, the patient resorts to quack medicines and nostrums; and, after a waste of time, of money, and of health, the physician is again applied to. It is under such circumstances, and in such cases, that electro-galvanism acts with the greatest success; inducing a return of the menses, when arrested, or producing an easy and abundant secretion of them, in those cases where this process has been inefficiently and painfully performed, perhaps, for many years previous; and this change is soon followed by an amelioration of all the distressing symptoms under which the patient has laboured.

The best and most convenient method of applying electro-galvanism, is by means of the machine sold at New York, under the name of the "Vibrating Magnetic Machine," or with the apparatus made by Clarke of London, for a similar purpose. Each of these machines is accompanied by a short treatise explanatory of the principles upon which it is constructed, and containing directions for its employment. The former instrument will be found cheaper, more convenient, and less likely to go out of repair than the latter.

Two insulated wires are connected to the apparatus, one being attached to each pole; at the free extremities of these wires are two platina buttons. When the machine is in operation, one of these buttons is applied by the physician to the lower portion of the spinal column, corresponding to the point of exit of the sacral

\* See Sogaud, Lafond, *De l'Electricité Médicale*, and Manduyb, *Traité de l'Electricité Médicale*.

nerves, and the other button is applied by the patient herself, or by a female attendant, immediately over the os pubis. In order to protect the patient from the inconvenience of getting the shock through the hand which holds the button, a thick glove should be worn.

Having desired that one button be kept firmly pressed upon the os pubis, the physician commences, by passing the other button along the spine, from the occiput to the os coccygis. After this has been done slowly four or five times, the button is then kept for five or six minutes immediately over the sacrum, and the electricity is thus passed in an uninterrupted current through the uterus. It is by no means necessary to put our patient to great torture by increasing the strength of the shocks; more benefit will be derived from an uninterrupted and steady transmission of a moderate quantity of electro-galvanism, than by occasional shocks of great intensity. The current may also be sent transversely through the pelvis, by placing a button on each hip, above the great trochanter.

Of course, it is needless to add that, with ordinary care, there need not be the least exposure of the person of the patient, for all the necessary manœuvres can be completed without removing the bed-clothes—the patient lying on her side, with her back turned to the physician. In some cases it may be useful to carry the current more directly through the uterus, which can be easily done by applying one button to the sacrum, and having the other wire attached to a curved brass rod, which can be introduced into the vagina so as to touch the cervix uteri. This is the plan I have advised a medical friend to adopt in the case of his wife, who has for years been a martyr to dysmenorrhœa.

It is not proposed to employ electro-galvanism to the exclusion of those remedies, whose efficacy in the condition of the system accompanying derangements of the uterus is so well established; on the contrary, they should always be employed during the intervals between the menstrual periods.

My usual practice is, to administer a combination of sulphate of quinine, and sulphate of iron, in small quantities—for in these cases both the stomach and head are easily deranged by large doses—and if (as often happens), the patient be subject to constipation, I combine with the foregoing, one ounce of the sulphate of magnesia to eight ounces of water. This I find to be the best and most pleasant way of combining, in the same mixture, the properties of a tonic, a chalybeate, and a mild aperient.\*

\* The following is the usual mode in which I exhibit these remedies:—

R Sulph: Quinina gr. iv. vel vi; Sulph: Ferri gr. viii.; Sulph: Magnesiae 3i; Acid Sulph: dil. m. x. Aquæ 3 viii.; of this half an ounce four times a-day.

In Graves's "Clinical Medicine," the reader will find the history of some cases that fell under my own observation, of which I shall here introduce a few particulars:—

1. *Anne Cummins*, admitted with ptosis and amaurosis of right eye, and in a lesser degree of the left eye. She had also amenorrhœa of ten months' standing. Electro-magnetism was employed for the relief of the two former symptoms: and on the 20th, as well as for a short time on the 18th, I also applied electricity to the region of the uterus, and on that evening she menstruated. This action continued on the 21st and 22d, and the fluid was natural both as to colour and quality. In this case not a grain of medicine of an emmenagogue nature was administered.

2. At page 423, the details of Cunninghame's case, are given. She was of an extremely hysterical habit, and was frequently an inmate of the hospital during the period of my connexion with that institution—June 15, 1842. She laboured under an attack of hysterical paralysis of one leg, for which electricity was recommended. Whilst this remedy was being applied to the region of the sacrum, the catamenia returned, having been suppressed for the thirteen months previous.

3. *Carroll*—Suppression of menses for 18 months. From 16th to 19th August, applied secondary electricity according to my usual practice. 20th, Learned that she had menstruated on the previous evening after I had left her.

4. *Smith*—Irregularity of catamenia for many months. 23d August—Yesterday, the 22d, she had a trifling manifestation of the catamenia, being then six weeks since their last appearance. Electro-magnetism was applied; and for the next two days the discharge was more abundant than it had ever been.

Since my arrival in this city, I have employed this agent with the greatest success in numerous cases of amenorrhœa and dysmenorrhœa, the details of which would be highly instructive, did space allow of their insertion. The four following examples, however, so clearly and satisfactorily demonstrate the advantage to be derived from this remedy in these diseases, that I shall make no apology for laying them before the reader:—

1. An unmarried lady, aged 25, of dark complexion, and spare habit, consulted me, on March 20th, for severe palpitations, accompanied with pain in the cardiac region, headache, dyspnœa, and pains and weight in the lumbar region. She had commenced to menstruate at the age of seventeen; and, for two years afterwards, the catamenia were quite regular, and she enjoyed good health; but for the last five years they were very irregular in their returns, and were accompanied by excess

\*ive pains in the uterine and lumbar regions. For the last ten months she had not observed any discharge. At the period when the menses ought to appear was expected in a few days, I immediately commenced the use of electricity; and, after two applications, the discharge returned, and continued to flow for four days. She has since menstruated regularly, and her general health is quite restored.

II. *A.B.*, a widow aged about 33, of sallow complexion, consulted me many months ago, for suppression of the menses. Since the death of her husband, which took place 7 years ago, the catamenia have been very irregular, always secreted with pain; and for many months past, has been completely absent. She had been at various times under medical treatment for these symptoms, but never obtained any relief. When she applied to me, I recommended electricity, but she begged of me to try something else first; and, should it not succeed, that she would then consent to this remedy being employed. She was placed under the ordinary treatment; but, as the discharge did not return at the end of three months, she again consulted me on the 1st of June, two days before the menstrual period was expected. After two applications of twenty minutes' duration each day, the catamenia came on profusely, and lasted for five days. I have no doubt whatever that henceforth they will appear spontaneously.

III. About the end of May, I was consulted by Dr. Evans of Richmond, C. W., concerning a young lady, in whose case he was deeply interested. It appeared that about seven months previously she had had a violent attack of pleuro-pneumonia, for which she was very actively treated, both by general and local blood-letting. After remaining in a precarious state for some time, she recovered; but continued in a very delicate condition, with all the symptoms of anæmia. The menses had not appeared for four or five months previous to my seeing her, although she had been most judiciously treated, with a view to their restoration. I advised electro-galvanism to be employed, to which both Dr Evans and his patient consented; and as the menstrual period was not expected for ten days, I recommended her to spend the interval with some friends in Quebec, and to return to Montreal on the 9th of June. Accordingly, on the 9th I applied electro-galvanism in the way I have already described. The menses almost immediately appeared, and continued to flow from the 9th to the 16th. She says she never had such an abundant discharge before, nor did she ever pass a menstrual period so free from pain and uneasiness. In fact, whilst menstruating, she took more exercise than she was ever before capable of doing. This case affords an apt illustration of what I have stated above—viz., that electro-galvanism

is equally suited to cases where amenorrhœa has followed as a consequence of severe derangements of the general health.

IV. The following case more convincingly exhibits the value of this remedy than any I have yet adduced, or, indeed, than any I have ever seen:—A lady, aged 32, of pale complexion, and delicate constitution, consulted me in the middle of March, for severe constitutional symptoms, produced by long-continued derangement of the uterine functions. She belongs to a family in whom this tendency is hereditary. Her mother suffered from dysmenorrhœa during the whole period of her menstruation; one sister died at the age of twenty, without having ever menstruated, although for four or five years she was under the able treatment of Dr. Robert Nelson, whose skill and talents were so well appreciated in this city, and she herself had, for six or seven years, the benefit of that gentleman's advice. At the age of fourteen the menses appeared, and continued regular in their returns for three years or so. She was usually unwell on the 20th of each month; but, from the first menstruation up to the present time, the discharge was so exceedingly scanty as never to have required the use of a napkin. After the first three years, up to the present, the discharge has hardly ever been so abundant as to leave the least trace on her linen; and were it not that at such periods pains of an agonizing character, referred to the lower portion of the abdomen, tormented her, she could not have known that the catamenia were being secreted. On these occasions she was always obliged to make strong pressure over the pubis, and frequently one of her female relatives has had to sit or lie over the lower portion of the stomach to mitigate her suffering. These attacks usually lasted for three days, during which she used to have almost incessant vomiting. For the last four years, intervals of five, seven, ten, and even thirteen weeks have occurred between each menstruation.

Having learned, from personal experience, that in cases exhibiting such irregularity as the foregoing one, it is useless to employ electricity, except as nearly as possible at that part of the month on which the discharge used to appear when the function was in a healthy state, I determined to give it a fair trial on the 18th of April. Accordingly, on that day, and for the next four, it was administered, but did not produce any discharge; the period, however, was passed over free from all uneasiness. She was then placed on the chalybeate and tonic mixture, above mentioned, and on the 19th of May I again submitted her to the influence of the remedy. For two days no discharge appeared, but on the third it came on most abundantly, and continued to flow for seven days, requiring the frequent change



of napkins each day; and during the whole of this time she enjoyed excellent health, was without the least pain, and was able to walk three or four miles daily, and to nurse-tend a sister, who was attacked with severe rheumatic fever. This change was followed by an almost instantaneous improvement in her general health, and she was soon after enabled to undergo the fatigues of a long journey, which she bore remarkably well.

The foregoing cases I have given in detail, because they exhibit, in a convincing manner, the great utility of electro-galvanism where all other remedies had failed; and (as in the last one) where the disease was of such duration as to afford *but little prospect of success from medical treatment*. I may be told that many measures, such as sea-bathing, horse exercise, travelling, residence in the country, change of scene, enjoyment of society, &c., have frequently produced as speedy cures in cases equally obstinate. True; but how many times are we consulted by females whose avocations and circumstances do not admit of such remedies being employed? In this country, as elsewhere, the object of the physician should be, to avail himself of all means which, without abandoning *in toto* the powerful adjuvants just mentioned, will render him and his patient, so to speak, independent of them; and, in the class of diseases now under consideration, electro-galvanism comes in opportunely to our assistance.

It must be borne in mind that electro-galvanism acts in these diseases, not specifically, but just as it does in all other cases where there is a manifest *depression* of nervous power and vascular action. Our general experience of the remedy clearly shews that it is not in instances of exalted nervous power, or of great arterial excitement, that it acts beneficially; but, on the contrary, its powers are best exemplified where these functions are, as it were, below the ordinary standard. Bearing this fact in mind, we are not likely to be misled as to the cases of amenorrhœa and dysmenorrhœa, in which it should be employed, with the greatest prospect of success; nor shall we recommend it in those instances where the above indications are absent, to the exclusion of active remedies, which both the pathology of the disease, and our own experience, point out as the most appropriate.

Montreal, June 20, 1846.

#### CASE OF CONCEALED DELIVERY.

By S. C. SKWELL, M. D., Lecturer on Materia Medica, University McGill College.

On the 16th November, 1845, at a quarter past one, p.m., I was called to Mr. K.'s, to see his servant, Bridget Cloone, ætat. 40, who was said to be suffering from colic and pain in the back. Laying my hand on the

abdomen, I perceived that she was about seven or eight months pregnant. On my charging her with the fact, she denied it stoutly, said she had menstruated two months before, and finally, finding that she made no impression on my opinion, she declared, in the most solemn manner, "that whatever was inside of her, it was no child." The reason for this statement will appear presently. I had her removed to the University Lying-in Hospital, whither I went in an hour after, and finding that the physician in ordinary had not arrived, at the matron's request I examined her, per vaginam, and found the os uteri dilated and the membranes protruding; presently I detected what appeared to be a cord, lying coiled in the upper part of the vagina, and on pulling at it, a free extremity came down, but not to the os externum. There were no clots of blood in the vagina. At half-past five I returned, and found Dr. McCulloch in attendance; the child just being born by the feet, and the woman still persisting that there was no child. The child was feeble, but not at all exsanguined. It survived a few hours. To the placenta was attached two cords; that of the first child had evidently been divided with scissors from the appearance of the cut surface. Information was given at the police-office, that a new born child had been concealed, for the woman denied that any previous birth had taken place. On searching the bed-room which she had occupied at her master's house, the bed bore evident marks of a delivery having taken place, and on searching her trunk, the body of a male child was found, underneath the clothes, which had been very carefully smoothed over it. Care was taken not to disturb the position of the limbs, and the body was removed to the Police Station House.

An inquest was held on the following day, when Dr. McCulloch and I were directed to perform the autopsy, of which the following is the result:—The body was fifteen inches long, and weighed two pounds fifteen ozs. avoirdupoise. The body was not exsanguined; there was no fracture of the skull; the conjunctiva was intensely injected; the cornea hazy, and pupil open.

The body was found on its right side in the box, and was deposited on the same side in the station house; in consequence, livid patches were observed on that side from the gravitation of the blood.

*External Examination.*—Several marks of injury were found as follows:—One from the right nipple to the point of the shoulder, half an inch broad; one from the right side of hyoid bone to mastoid process of right temporal bone; one a little lower, and to the outside, which terminated at the back of the neck; the fourth commencing to the outside again, went to the middle of the superior costa of the scapula, the hands were turned up to the head, the right one to the right ear. The nails

were formed. The umbilical cord had been divided nine inches from the body, evidently with scissors, and there was no ligature on it. Meconium was protruding from the anus; the testicles had descended; the thighs were flexed on the abdomen, and the legs on the thighs.

*Internal Examination.*—The marks of injury before referred to, were cut into, and the cellular tissue underneath was found to be red with extravasated blood. An incision was made through the lower lip, and down to the epigastrium, in the mesial line. On dividing the lower lip, the tongue was found protruded more than a line beyond the gums. On opening the thorax, the following observations were made:—The apex of the diaphragm was opposite the fifth rib; the lateral portions were well descended; the lungs were of a uniform bright scarlet color, occupying the lateral portions of the thorax, and touching the diaphragm below, but not filling the pleural cavities entirely. The heart and great vessels were nearly in the mesial line, and the cavity of the entire thorax was large for the size of the child; the lungs crepitated on pressure; the lungs, heart, and thymus gland were then removed, and, on being put into water, floated; crepitation occurred under the scalpel; a portion of lung was squeezed under water, and bubbles issued from every part of the cut surface; the same was observed on squeezing a portion in air; nearly half of each lung was removed, and the remainder, with the heart and thymus still attached, was cast into water, when the mass again floated; portions of lung floated in water; the cavities of the heart contained dark blood, slightly coagulated; foramen ovale was closed, but not obliterated.

#### INFERENCES.

- 1st.—The child had breathed freely.
- 2d.—The marks of injury on the right breast and neck were inflicted during life.
- 3d.—They were, in all probability, occasioned by the left hand of an adult grasping the neck of the infant.
- 4th.—The protrusion of the tongue, and position of the hands, are, probably, referrible to strangulation.
- 5th.—Death was not caused by hæmorrhage from the cord.
- 6th.—The child was between seven and eight months of utero-gestation.

The rest of the evidence went to show, that Bridget Cloone had been a widow for some years; that she had carefully concealed her pregnancy; that she had taken powerful emmenagogue medicines, prescribed by an irregular practitioner, up to the day of delivery, and that she was seen, half an hour before my arrival, to get out of bed, stand by its side, take a pair of scissors from under the pillow, and cut something under the bedclothes.

The coroner's jury brought in a verdict of "Wilful

Murder." The bill of indictment founded thereon was thrown out by the Grand Jury. She was then indicted for concealing the birth of an illegitimate child, convicted, and sentenced to six months' imprisonment.

The above is an exceedingly important case in the annals of Medical Jurisprudence; and cases of the kind are very rare. Under the hope of escaping from the consequences incident to an actual infanticide, of which there is the strongest probability, this woman *persisted to the last that she was not pregnant*, little anticipating that a second child was to furnish its quota of evidence of the birth of a former one a few hours previously. The case furnishes a striking proof of the fact, that a woman may be delivered of one child, of which she may criminally dispose, for the purpose of concealing its birth, and may be afterwards delivered of a second, the life of which may be preserved.

#### GEOLOGICAL SURVEY OF CANADA.

*Report of Progress for the Year 1844. By William Logan, Provincial Geologist.*—Lovell & Gibson, 1846.

The provincial geologist has prefaced his report of progress for the year 1844 with a descriptive geographical sketch of the field of his observations. This is a very acceptable contribution to our knowledge of that district, of which no previous topographical survey had been made. An examination of this nature was obviously necessary before any account could be given of the geological structure of the country; and this obstruction, if not to the prosecution, certainly to the expression and recording of his specific labours, Mr. Logan seems to have surmounted with equal ability and success. The coincidence of the result of his admeasurements, with that of Capt. Bayfield's, and Deputy-Surveyor-General Bouchette's, is a striking proof of the accuracy of his science in this department of his investigations.

From the mouth of the Chat to the Bay of Chaleur, the majestic mountains of Notre Dame required to be passed over; and these, as they formed the primary object of the geological survey, become, likewise, interesting parts of the physical geography of the country, when drawn with the accurate and not ungraceful outline which we have in the following sketch:—

"From the highest summit we visited, the panorama displayed was of the grandest description. In the northern half of the circle, the waters of the St. Lawrence, dotted with its ships and fishing boats, spread out to the right and to the left as far as the eye could reach. On its northern shore, immediately in front, unaided vision could plainly distinguish the lighthouse of the Pointe des Monts, some fifty miles off, from which the granite hills, rising immediately behind it in the interior, gradually sunk below the horizon as they receded from us, following them down the expanding gulph, to a point where we thought we could discern the Island of Anticosti, one

hundred miles away in the mist of the distance, while at our feet were arranged in parallel lines the ridges and valleys of the lower land between us and the river. To the eastward, a confusion of mountains and ravines belonging to the Notre Dame Range, filled up several degrees of the circle, and one summit, which exhibited a patch of snow, we supposed might be higher than the point we stood upon. Many of the peaks were bare; and, as they retired one behind another, and occupied a smaller angle in the perspective, it became difficult to distinguish those of the Notre Dame from such as appertained to other ranges. Turning southward, a sea of parallel undulating ridges occupied the picture, the more distant of which we conceived might present a table land, with a few marked points rising in cones and domes; and through one gap, which probably was the valley of some south flowing river, we distinguished a faint blue horizontal line, which we fancied might be in New Brunswick. Prominent points became still fewer, veering westward, until the horizon was again interrupted in that direction by a well defined outline of a not very distant part of the range from which we looked.

"The highest summits within our view were generally bare rocks. Those next in the scale were crowned with sturdy dwarf spruce trees, many of them not five feet high, but springing up so close together that their branches interlocking, rendered it very difficult to make way among them. On those still lower, spruce became mingled with white birch, and the size of the trees gradually augmented in proportion to the decrease of elevation. One feature in the vegetation high up in the hills, that struck us forcibly, and gave us much satisfaction after confinement in the forest below, was the great extent of open glade that appeared on all sides but the north. Wide slopes on the east, the south, and the west, were carpeted with the most luxuriant growth and abundant specific diversity of ferns, from which clumps of spruce, or of white birch, or of both mingled, started up here and there, giving the hills occasionally almost the character of park scenery, as if art had arranged the distribution with a view to ornament, and often producing, in combination with peaks, ravines, and a distant horizon, landscapes of a very pleasing description."

There are several things that serve to lighten the toils of the practical geologist, and to form a sort of compensation for them, abstracting altogether from their value as a source of national wealth, or a professional occupation. It is neither the hope of discoveries, nor the expectation of any direct utility, that inspires the enthusiasm which is prophetic, and, at the same time, productive of success. Sir Walter Raleigh certainly made mention only of a subordinate motive, when he said, "Neither am I so far in love with that lodging, watching, care, peril, diseases, bad fare, and many other mischiefs that accompany these voyages, as to woo myself again into any of them, were I not assured that the sun covereth not so much riches in any part of the earth." He was, in truth, only thus betraying himself by "an imagination." That instinctive love of the miraculous and the beautiful, that unconquerable delight which many persons have in

beholding the pictures, and dwelling in the palaces of nature—these, as is evident from his rapturous descriptions, were undoubtedly a main source of his activity and adventure. There are no pursuits that better gratify these tastes than that of geology. Besides, that they are health and strength to the geologist, he is led by them into the rarest scenes which the surface of the globe presents—scenes which no ordinary tourist ever thinks of visiting, and that usually lie beyond the province of human duties. Many a fairy spot in the bending arm of a stream—many a glorious panorama it is his happiness to witness, as

High o'er the hill, and low adown the dale,  
He wanders many a wood, and measures many a vale.

What, indeed, constitutes the charm of the practical study of geology, and often inspires the students or cultivators of it with extraordinary enthusiasm, is the gratifying of the many sensibilities which have a necessary affinity with it—"eternim omnes artes habent quoddam commune vinculum, et quasi cognatione quadam inter se continentur."

#### *Conglomerate Limestone, Pillar Sandstones, and Graptolitic Shales.*

The whole of the deposits given amount to about 1140 feet in thickness, and the distinguishing features they present are the bands of conglomerate limestone, and the bituminous mineral so much resembling coal. This is found not only in the septa of the cherty nodules which have been mentioned, but also in many small cracks across the strata, and in more parts than one of the vertical thickness. A similar mineral, in an analogous position, is found in the rocks at Point Levi and Quebec, and in the museum of the Quebec Natural History Society a block of it, procured in the neighborhood, containing about a cubic foot, is preserved. Some have been inclined to suppose that it might indicate the proximity of workable coal, and indeed I have been asked whether a mine upon it, in a position which I have not yet seen, but where according to information received, a cart load of it has been obtained, would be likely to be successful. Now none of the material where it has come before me *in situ*, bears any analogy in the mode of its occurrence to workable coal. This is always found in extensive by continuous beds conformable with the stratification; whereas the mineral in question occurs in cracks cutting the strata across for greater or less distances. It is true that where faults or dislocations exist among coal seams, there is often met with running across the stratification what by Scotch miners is termed a *vise*, and by Welsh, a *leader* of coal, which in general is a thin, confused, irregular interrupted black more or less carbonaceous sheet, conducting up or down, as the case may be, in the plane of dislocation, from the termination of a coal-bed on one side to that on the other; and there is no doubt it is the result of the grinding of the terminal edges of the strata against one another, when the slip producing the dislocation occurred. Without a slip or displacement, therefore, no leader would be found, and none in any case would hold true coaly mat-

ter extending beyond the distance between the separated edges of the coal-bed. Now in the case of the bituminous mineral, the cracks in which it occurs are, in many instances, unaccompanied by any displacement of the strata, and in others where the extent of the dislocation (that is the upthrow or downthrow, as it is called) is visible, no layer holding any of it occurs among the beds. Independent of all this, the formation in which the mineral is found, is an inferior member of a group of rocks, whose place is in all probability a very considerable distance below the position of the true workable coal-bearing measures, and we are, therefore, not warranted in expecting coal seams to exist in it. The rock is supposed to be the equivalent of a part of the Hudson River Group of the New York geologists.

Although the chain of Notre Dame Mountains runs parallel with the general strike of the strata between them and the St. Lawrence, and the rocks composing them have not been classified separately, I do not recognize them as similar to any mass met with on the coast, notwithstanding the direction they take ought to bring them out obliquely upon it towards the top of the group. Should further investigation prove that they really belong to the group, it will result that their mineral condition must have been greatly changed; but a larger number of facts must be collected to authorize any conclusion respecting them. In all the parts visited they present a metamorphic aspect. Their general colour is pale green, very much resembling the green of epidote. They are hard, close textured and silicious, often presenting the appearance of a very fine-grained sandstone, in which the beds would be nearly obliterated were it not for fine lines of discoloration. Such was their general character on the summits of the highest peaks, and at six localities in our progress up the gorge of the Chat; but loose angular fragments in the stream shewed that the green is sometimes mottled with red jaspery patches, and that some masses display a fibrous or a bestiform structure, breaking into hard long pointed splinters, while others, possessing something the character of mica schist, split into silicious plates, whose separation is facilitated by the existence of flakes of mica, running in parallel layers.

On the summit of the Old Man Mountain, which consists of the close grained quality of green silicious rock first mentioned, we found the needle of our compass deflected  $4^{\circ}$  from the ordinary magnetic meridian of the neighbourhood, which is  $22^{\circ} 30'$  west of true north. The irregularity may have been occasioned by the vicinity of some vein of the magnetic oxide of iron, but so much of the surface was concealed by moss and trees that our search for it proved unavailing.

#### *Gaspe Limestones and Calcareous Shales.*

In the neighbourhood of Gaspe Bay, four mineral springs exist in the rocks of the formation under description. Two of them are bituminous, and two of them are sulphurous. One of the bituminous springs is situated on the south side of the St. John River, about a mile and a half above Douglastown. The liquid is petroleum, and it oozes from the mud and shingle of the beach. On digging small pits a black earthy deposit two or three inches thick is perceived lying on bluish gray clay, and it is from this black earthy deposit that the liquid

was seen to exude; and none of it from the clay; though there can be no doubt there must be some orifice in the clay to allow the communication with the deposit resting on it. The liquid collects in the pits in a thin film on the surface of the water entering with it; and from twelve pits, I with difficulty obtained half a pint in four hours. When the beach is covered with water, intermittent black blotches are seen to rise through it in several spots, which, floating on the surface, are carried by the wind or the tide to the first impediment offered by any stick or collection of seaweed rising above its level, and occasionally a small supply of it is found thus embayed. Localities yielding the liquid are said to exist at intervals all the way up to the lower extremity of the first marsh island, a distance of about three-quarters of a mile, but though I examined about half of it, I did not detect any of them.

The position of the other petroleum spring is about two hundred yards up a small fork of the Silver Brook, which is a tributary of the South-west Arm, falling into it about six or seven miles above Gaspe Basin. The exact orifice from which the bituminous liquid issues is not easily determined; but it collects on the surface of the water, wherever impediments cause a quiet pool, in the form of a thick green scum, which can be taken with a spoon. A copious spring of pure water rises up at the spot, and though none of the petroleum was visible on the surface of the spring at its issue, it is not improbable some connexion may exist between their sources, as no trace of it was found higher up the brook. About a pint of the bituminous liquid was collected in half an hour, but this was from an accumulation found covering a small pool, on reaching the place the odour of which could be perceived for one hundred yards around.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON THE TREATMENT OF ACUTE RHEUMATISM.

By P. M. LATHAM, M. D.

It needs little else than a perusal of the instructive volume from which the following observations are extracted, to convince us of the immense importance of a prompt and scientific treatment of acute rheumatism. On this point the remarks of the author are worthy of implicit confidence, being the result of labours conducted under circumstances the most favourable to the eliciting of truth; namely, those of extensive experience united to and guided by high scientific acquirements. In his tenth lecture, the author enters upon the consideration of the several indications towards which the curative endeavours of physicians are generally directed, and first of *blood-letting*. The power of this remedy, he observes, carried to its full extent, is in many cases undoubted, the entire disease being rapidly subdued by it, but in other cases it is far from being efficacious, or may even prove positively injurious. Upon the whole, therefore, he decides that the practice which proposes to cure rheumatism, at any cost of blood which may be needed, is an uncertain and a dangerous one.

Still, he observes, venesection is among the remedies of acute rheumatism, not needful in all cases, but expedient in many. "It is expedient to abate vascular action when it is excessive, when the patient is robust and young, and the disease has arisen accidentally in a healthy constitution. . . . But in the young, robust, and previously healthy, where vascular action is not excessive, and in the old, the feeble, and the previously val-  
tudinary, even when it is, venesection is best omitted. There are other remedies which, without the help of bleeding, may be trusted to for its safe and effectual cure."

"Summarily, then, I would venture to say of venesection em-

ployed under the most suitable conditions, and in the most suitable measure, that it is to be trusted, rather as preparatory and auxiliary to other remedies, than for its own exclusive power in acute rheumatism. It may often render the disease more curable by other means; but seldom cures the disease itself."

Of opium he says, that as the pain is often severe, "the dose must be large, and often repeated, which is to reach it and lessen it. In the severer cases, and when the whole treatment is left to the sole remedial power of opium, the measure and frequency of its dose must be enough to *subdue*, if it is to have a fair chance of tranquillizing."

Upon the whole he regards the indications of treatment founded upon the state of the nervous system as safer than that founded upon the state of the vascular, and he looks upon opium consequently as a better remedy than venesection, and to be preferred to it, if we are to follow one of the two indications singly, and to use one of the two remedies only.

The third or derivative plan of treatment which seeks to obtain from the abdominal viscera a large evacuation of their secretions is thus spoken of. "The mode of proceeding is thus: ten grains of calomel are given at night, and a draught of salts and senna in the morning; and the same are repeated night and morning, as long as they can be well borne, and continue to produce their effect. The evidence that they are well borne, is that they occasion no distress, and the desired effect is that they bring away dark or bilious evacuations. If they induce tenesmus, and stools of pure bile or mucus and blood, it is a sign that they are doing injury, and should be withheld." This practice, which is due to Dr. Chambers, is strongly commended by the author. "In three days there is often a signal mitigation of the symptoms; and in a week I have seen patients who have been carried helpless into the hospitals, and shrieking at the least touch or movement of their limbs, risen from their beds, and walking about the ward quite free from pain." And again, "if in the treatment of acute rheumatism you were to choose one indication, and abide by it, and to trust to one class of remedies and to one only, you would find more cases that admit of a ready cure by the method now described, than by either of the two former. You would find the aggregate of morbid actions and sufferings which constitute the disease, more surely reached and counteracted, and more quickly abolished by medicines operating upon the abdominal viscera only, than by those which influence either the bloodvessels only, or the nerves only. \* \* \* It has appeared to me not only to bring the disease to a speedier conclusion, but to prepare the way for a more rapid convalescence than the other methods."

Having thus spoken separately of the three methods of treating acute rheumatism, by taking the state of the vascular system as the main indication, by regarding chiefly the condition of the nervous system, and thirdly, by producing a derivative effect upon the intestinal canal, the author proceeds to remark that although each may, in certain cases, be successful singly employed, that the most successful mode of treatment is a compound of the three: "For," he observes, "I believe that by the judicious use of opium you may spare blood, and by the judicious use of bleeding you may spare opium; that by calomel and purgatives properly administered you may make bleeding and opium less needful, and that by bleeding and opium discreetly employed you may leave less to be effected by calomel and purgatives."

Of colchicum, Dr. Latham remarks, that "single-handed it cannot be trusted for the cure of the severer cases, but it can in the milder, and I have so trusted it, but I do not recommend the practice. Colchicum given alone, has been slow, even in these milder cases, of making its curative impression. Many days have generally elapsed before it has produced any abatement of swelling and pain, of vascular action and fever; and then, not until it has begun to purge smartly and even painfully. Finding then that in the milder cases I had no fair chance of obtaining from it the virtue of a remedy without running some hazard of its acting as a poison, I considered it much too hazardous an experiment to commit the treatment of acute rheumatism to it, mainly or entirely, in the severer cases."

The customary modes of exhibiting colchicum, is to combine it as an auxiliary to other medicines. Dr. Latham objects to its being so employed, but reserves it for special emergencies, when he trusts to it with great confidence. His words are these: "When by venesection and by opium, and by calomel with purgatives, excess of vascular action, and fever and pain are abated but not entirely abolished; or when pain and swelling do not subside in proportion to the abatement of the vascular action, then I invoke

the aid of colchicum, and give twenty or five-and-twenty minims of the wine of the seeds or the root, twice or thrice a day, and I often find the disease proceed uninterruptedly to a cure."

The author likewise trusts to colchicum in cases of relapse. As he observes, he gives it without combination, so that there can be no hesitation in allowing that the beneficial effects are essentially due to its specific virtues, for the cure has occurred prior to the production of any irritation of the bowels.—*Ranking's Abstract.*

## OBSTRUCTION OF THE BOWELS.

The object of the following case is to show the effects, apparently and probably really produced by electro-magnetism. The patient, a widow lady of about fifty-five years of age was taken, ten days previous to my seeing her, with bilious vomiting and intense pain in the bowels, accompanied by constipation. The pain ceased in three or four days, but the vomiting continued, and was now stercoraceous. She had been bled to faintness, had taken calomel until the gums were sore, had taken one drop of croton oil every hour, for several doses, besides various other cathartics, and repeated ordinary injections. I found her on the eleventh day, without fever, bowels somewhat tender, and vomiting fecal matter every hour or two. The injections before used had been given with a common syringe and allowed to come away immediately. I used the rectum tube and force pump, but could not throw up more than a quart at once, which, however, was compelled to be retained for half an hour, when it was suffered to pass, and after a little repeated. This was continued for six times, until the injection, which at first returned mixed with fecal matter, came away, after being kept up an hour, almost as clear as when given. The symptoms nearly the same: there was evident obstruction, and, probably, invagination of the small intestines. I now used Mr. Pike's electro-galvanic apparatus, applying a pole on either side of the abdomen; this was continued for twenty minutes, when there was evident commotion in the bowels, and in ten minutes more there was a regular evacuation, thin and small in quantity, but distinctly of a fecal character and the first in eleven days. The vomiting ceased entirely; two hours after, the battery was again used, and in twenty minutes produced a free operation. A dose of oil operated in the usual time, and the patient rapidly recovered. There was no doubt in my mind but the favourable change was produced by the electro-magnetism, though more probably by the successive shocks producing muscular action, rather than by any electro or magnetic agency.—*New York Journal of Medicine.*

[In the above instance we have another illustration of the value of Electro-galvanism as a remedial agent. A case of obstinate constipation, is at present in the Montreal General Hospital, in which I have frequently recommended a trial of electro-galvanism, and at one time, whilst the patient was under my care, I was going to employ this remedy, when, to the surprise of every one, the bowels became spontaneously relaxed, and five or six motions took place daily for at least a fortnight. Soon after, constipation became again established. I know of two cases where this dangerous malady yielded to the remedy; and I can also hear testimony to the statement of the author, that it is useful in stimulating the uterus to contraction in cases of powerless labour.

Shortly before my departure from Dublin, a case occurred

\* I would remark that I always avoid the use of this machine during pregnancy. In one case, however, where I used it for chronic rheumatism, without being aware of the pregnancy, it apparently caused a miscarriage, which followed after about twelve or fifteen applications.

in the Lying-in-Hospital, in which the ordinary symptoms which call for the use of ergot, presented themselves. It was, however, determined to try electro-galvanism. One button was applied to the sacrum and a curved brass rod connected with the other wire was introduced into the vagina, so as to come in contact with the os uteri; the circle being thus completed the apparatus commenced to work, the pains which had long been suspended, were renewed, and in less than fifteen minutes a living child was expelled. The placenta, too, was in this case retained, and after the period allowed for its separation had elapsed, electro-galvanism was again applied, and with the happiest results; one or two contractions immediately followed, and the detachment of the afterbirth quickly ensued. The great importance of this fact must be at once apparent, not only as regards cases of tedious labour, but in those instances where the accoucheur is obliged to induce premature labour. Nor should we lose sight of its probable application for criminal purposes in producing abortion. Dr. Radford of Manchester, (England), and others, have recommended electro-galvanism for the arrest of uterine hæmorrhage after delivery, and its success has been fully established; but in these cases, it is not to be expected that it will ever be extensively employed, for the absolute necessity for immediate and prompt treatment, and the delay which must always occur before the apparatus can be set to work, are in themselves sufficient objections against substituting this for the ordinary ment in such cases.—R. L. M.D.]

### OBSERVANCE OF METHOD IN CONDUCTING POST-MORTEM EXAMINATIONS.

ESPECIALLY WHEN THEY ARE INTENDED FOR LEGAL PURPOSES.

By H. LETHEBY, M.B., Lecturer on Chemistry at the Medical School of the London Hospital.

A very slight acquaintance with the practice of our criminal courts is sufficient to point out this very prominent fact, that of all classes of persons who may be called upon to give evidence, medical men generally cut the worst figure. They are so undecided in their manner; have always omitted so many important points of the inquiry; are accustomed to rely so thoroughly on the opinions of others, and, in short, give their testimony with so much qualification and confusion, that they are looked upon as a prominent and an easy mark for the very worst advocates. Now, the secret of all this appears to lay in one or other of three great deficiencies, as—1st, a want of a good medical knowledge; 2nd, a want of method or system in conducting the inquiry; or 3rd, a want of caution in forming an opinion, and of steadiness in asserting it. Omitting the first of these, which is, unfortunately, a far too frequent cause, but which cannot be discussed here, then the second assumes the greater importance, for it is out of this want of method that the third is sure to flow; it begets incaution and uncertainty in the manner of the witness, and is suggestive of all the subtlety and misconstruction with which the case is sure to be surrounded: and if it does not beget, it will favour, the development of the other bad but plausible elements of jurisprudence.

I have more than once seen a good and a clear evidence broken into pieces, and made altogether worthless, because the observance of some little point, remote enough in the inquiry, had been omitted. Let me take an instance:—A man dies suddenly, and circumstances seem to show that he had been poisoned; the medical attendant does not en-

tertain a doubt upon the question; he had, in fact, made up his mind before the body was looked at, and, to his thinking, there was no necessity for examining the head, or the spinal cord, or even the heart, beyond taking a glance at its position. When, therefore, he gets to be questioned in the witness-box, he is compelled to admit that he does not know anything about the state of the nervous centres, and is quite unable to say whether the coronary arteries were normal; whether the valves of the heart were healthy: whether there was any communication between its right and left sides; and he is, in fact, altogether unprepared to negative a supposition, that death might have been occasioned by any one of half-a-dozen natural causes which the sophistry of an advocate could easily invent, and as easily give probability to; and then comes the consequence,—that his evidence, though good in the main, and absolutely correct in its import, is nevertheless set down as nought, and he himself abused and grievously discredited.

Now this is not an imaginary or an overdrawn instance for the daily and almost hourly practice of our courts is giving the reality to similar ones; and we may learn from them a world of profitable experience—as, not to be guided by premature opinion, nor to take anything for granted, and above all, to observe a method in conducting our inquiries.

Again, the law of evidence imposes upon every medical man the necessity of conducting his operations in such a manner as will enable him to take cognizance of every fact connected with the inquiry; and these, moreover, should be recorded exactly in the order in which they occur. In this manner, he will possess himself of all the information relating to the case; he will be able to meet the sophistry of an opposing counsel—to give his testimony clearly and distinctly—and to say with much confidence what has, or what has not, been the immediate cause of death.

A little attention to duties of this kind has led me to think, that almost every medico-legal inquiry may be profitably conducted, if it be followed out somewhat after this manner:—

1. Record the name, age, and sex, of the deceased.
2. Note the day and the time at which the examination is made, and set down the period which has intervened since death.
3. Direct attention, as early as possible, to surrounding circumstances, as to whether there is any weapon or trace of blood near, any cup or bottle likely to have contained a poison, or any evidence whatever in the position of things about the body to indicate a struggle or the cause of death.
4. Observe the position of the body. Is it in bed or on the ground; and how does it lie?—or is it suspended?—and so on.
5. Is the body naked?—or are the clothes on? and are these disturbed or torn?
6. Notice the position of the limbs. Are they or the fingers bent, as if convulsions had preceded death? Open the hands, and search for anything which may have been torn from an opponent during the death struggle.
7. Observe the appearance of the countenance, as regards its colour and expression. Are the eyes open or prominent? What is the state of the conjunctiva and pupil? Is the mouth open, or is there any foam about it? Does the tongue protrude, or is it bitten? Smell the mouth, and notice the colour of the gums.

Connected with this part of the inquiry it may be said that the countenance will often give an important indication of the cause of death, and of some of the circumstances which immediately preceded it. Thus, as regards its colour, it is mostly livid after apoplexy and death from hanging or stran-

Swelling, and pale from hydrocyanic acid, the mineral acids, and the alkalies, as well as from most of the vegetable poisons, from blows upon the epigastrium, or injury to some vital organ. On the other hand, it may be either pale or red after poisoning by carbonic acid, alcohol, or opium, and some other poisons.

The expression of the face, too, is generally convulsive when there has been much struggle immediately before death, as during hanging, drowning, or poisoning by prussic acid, strychnia, and nux vomica: and it is often convulsed in cases of death accompanied by great hæmorrhage. On the contrary, there is more frequently a calmness in the expression after death from apoplexy, opium, carbonic acid, &c., while the features are pinched, and there is an anxiety in the look after the action of the metallic and most vegetable poisons.

The eye also is generally open, prominent, and glazed, after the effects of hydrocyanic acid, and prominent and injected after death from apoplexy and strangulation. Some authors, moreover, have described a suffused or even ecchymosed condition of the conjunctiva after death from arsenic.

The foam about the mouth is very characteristic of prussic acid, while the bitten tongue would indicate a great struggle or convulsive action immediately before death.

The gums put on a blue appearance after poisoning by lead; and the red or spongy gum, or even an ulcerative condition of the mouth, is often indicative of the action of mercury. It must be remembered, however, that the same appearances, together with extreme salivation, have been produced by other substances, as iodide of potassium, colchicum, fox-glove, croton oil, and some other metallic and vegetable substances.

8. Proceed to remove all clothes from the body, and observe if there has been any evacuation just before death, either from the stomach or rectum, or bladder, or if there has been any emission of seminal fluid. All of these appearances indicate convulsive action, and the latter, which is the common accompaniment of death from hanging, points to an irritation of the upper part of the spinal cord, and may serve to establish the fact of suspension before death, supposing that an opposite question were to arise.

9. Note the appearance of the body, whether deceased was fat or thin. Observe the colour of the skin, whether it is livid in any part, or if it presents any marks of violence, and if putrefaction has commenced. The colour of the skin is exceedingly pale when there has been much hæmorrhage before death, or after starvation, &c., and it acquires a yellow tint after poisoning by lead and copper: it is often ecchymosed or covered with purple petechiæ after arsenic, and some wasting diseases. The dependent parts are generally very livid soon after death by hydrocyanic and carbonic acids; and when there is any mark of violence, this should be accurately described, considering by what means it was likely to have been occasioned: whether it could have happened by accident, or by the hand of deceased, or by that of another person. In examining wounds about the throat, it is of great importance to notice on which side of the neck the wound is deepest, for this may indicate where the cut was commenced, and whether it was made from right to left, or from left to right: dissect them also to learn what parts have been involved in the division. If there is any mark of a cord around the neck, observe where the knot pressed, or where the cord was crossed; for one person would, in all probability, strangle another by crossing it behind, while in a case of self-murder it would most likely be crossed in front.

Lastly, it is of great consequence to know whether the wounds or bruises were produced before or after death, and although this cannot always be confidently stated, yet there are circumstances which will often furnish very important indication—as the absence or presence of coagula in the

wound, or of ecchymoses around it, or of infiltration of blood, fibrin, or serum, into the surrounding tissue; and I have noticed that most post-mortem wounds soon dry and discolour upon the edges, acquiring a brownish parchment-like appearance. With respect to evidence furnished by putrefaction, I shall have occasion to refer to this more particularly under the next head; but it may here be stated that most poisoned and plethoric bodies putrefy quickly, and especially those of persons who have died soon after a full meal; while, in the reverse cases, and after poisoning by arsenic, there is generally a delay in this process.

11. Can any opinion be formed as to the time which has elapsed since death took place?

This is often a very important question, and may involve an answer having a certain day, or even hour, for its limit. We shall find, however, that the post-mortem signs are not by any means so constant in their occurrence, or so conclusive in their import, as to warrant us in making, on all occasions, such a positive reply. Our evidence upon the subject may be collected somewhat after the following manner:—

(a). Is there any warmth in the body?

I have not been able to get together very many facts connected with this as a sign, and my observations have been made chiefly upon subjects removed directly after death from the wards of an hospital into a dead-house, the temperature of which was about 50 deg. Fah. I have found that adults cooled pretty constantly after this manner:—The extremities lost their heat very rapidly, sinking to the temperature of the room in less than three hours, while the surface of the trunk has felt warm, even up to the twenty-fourth hour; and at this time, a thermometer, placed either in the axilla or rectum, has generally stood at somewhere about 70 deg. Fah. In fact, these parts have hardly ever lost the whole of their heat until after the lapse of thirty-six, or sometimes forty-eight hours.

There are many circumstances, however, which may modify this order of things, as, for instance, the body would have cooled faster had it been exposed to a current of cold air, or had it been immersed in cold water; also children and very thin subjects will cool sooner than adults, or corpulent ones. Again, when the body has remained in bed, or been well clothed, and surrounded by bad conductors, the temperature is retained for a somewhat longer time.

(b) Has the rigor mortis set in?

It most commonly happens that the limbs begin to stiffen in about two or three hours after death, and the rigor is generally firm and complete after the lapse of seven or eight hours. To this, however, there are occasional exceptions, as for example, it is nearly always accelerated when the fatal event has been sudden, and when, immediately before death, there has been violent convulsive action, or a prolonged muscular exertion. In such cases the living spasm appears to pass at once into the dead rigor. Look, for instance, at the suicide, who is often found with the weapon firm in his grasp; and so with the murdered and the drowned, who frequently retain their hold of objects which had been clutched during the death struggle. Cases, on the contrary, will now and then occur, in which the rigor mortis appears to have been delayed for a very considerable period. Such, however, is rarely the sequence of sudden death, but it is, as far as my experience goes, indicative of some inflammatory action immediately before death. It has also been said that there is no cadaveric rigidity when life has been destroyed by lightning or by electricity; but I am not disposed to put faith in this assertion, for experiments on animals seem to show that a fatal shock will throw them at once into a state of extreme rigidity, out of which they pass in an unusually short time.

(c). What is the condition of the cornea?

In general the cornea becomes slightly clouded after the lapse of nine or ten hours. In about sixteen this condition



is still more evident; it then gets somewhat lax, is easily indented on pressure, and when this is made upon the side of the eyeball, the cornea becomes still more opaque. In about twenty-four hours it commonly acquires perceptibly greater laxity, and in forty-eight it may become quite flat, and so opaque, that the pupil can hardly be defined through it.

(d). Has putrefaction commenced?

This is rather an inconstant event, and is liable to be interfered with by many modifying circumstances, such as the temperature of the room, the time of the year, the condition of the body, the cause of death, and whether it occurred soon after a meal or not, and so on. Nevertheless, we must attempt to set down something like an order for the time and succession of its several steps. In about eight or ten hours after death, the surface of the body, especially over the chest, and on the inside of the arms and thighs, puts on a marbled appearance, due to a turgescence of the superficial veins. In about sixteen hours, the dependent parts become livid or reddish-purple, and after the lapse of twenty-four hours, this lividity is generally very marked, and the marbling on the chest and arms begins to acquire a purplish tint. About the second day it assumes a brownish hue, and at this time the abdomen and groin show more evident marks of the putrefactive process, by acquiring a green colour. From this period it advances with more or less rapidity, according to attendant circumstances. In five or six days, the entire surface is ordinarily very green, and the venous marbling still strongly marked. About this time, in warm weather, the epidermis begins to loosen, and the fluids acquire great liquidity, and gravitate to the dependent parts, through which they readily escape: beyond this, the track of decomposition can scarcely be followed with any certainty.

While we are occupied in discussing the question which refers to the time of death, it may not be altogether out of place to refer to those evidences which prove that death has actually taken place, for there are several morbid agents which have the power of producing a state exactly simulating death, and it will devolve on the medical man to pronounce whether that state is apparent or real. The records of this country, but more especially those of France, where the burials are more hastily hurried over, show that numbers are annually consigned to a premature grave.

12. What therefore are the evidences which show that death has really taken place?

(a). An absence of cardiac pulsation, and of the respiratory movements.

(b). A loss of sensibility in the excito-motory system, as when the eyelids cease to wink on being touched, or the limbs and muscles to move on being pinched or pricked; one of the most powerful agents as a test of this function is galvanism, and I have found that the muscles lose their faculty of contracting under its influence in about three hours after death. Nysten has given results which appear to indicate a much longer persistence of this the last act of vitality; but as far as my experiments have gone, I am led to think that three hours is about the mean time of its duration.

(c). The appearance of the rigor mortis, which generally sets in after about two or three hours.

(f). The loss of temperature in the body.

(g). The opacity or cloudiness of the cornea.

(h). The lividity of the dependent parts, and the mottling on the arms and chest.

(i). The setting in of putrefaction.

Of all these signs of death, the second merits the greatest consideration, because of the certainty of its import and of the early period at which it generally manifests itself.

13. Examine the head, and note if there is any bruise on the scalp; does the latter bleed freely as if its vessels had been congested?

14. Are the membranes of the brain natural, and is there any fluid upon or beneath the dura mater; note its quality

and quantity: and when there is any blood, observe if it is coagulated or not. Are the vessels on the surface of the brain gorged or not; and is the blood liquid or dark?

All the considerations which arise from these inquiries will be well enough understood, but it is to be remembered, that apoplexy, and, according to Dr. Conolly, epilepsy complicated with mania, will nearly always produce an extreme congestion of the vessels of the brain, and even in some instances, effusion of blood between the dura mater and arachnoid.

15. Remove the brain, and examine it by making a series of thin horizontal slices, until it reaches quite to the base; observe if there has been any softening, or are there any bloody points indicative of congestion; has any blood or serum been effused into its substance, or into the ventricles, and what is the condition of the choroid plexus.

If the brain has not been examined in this careful manner, difficulties may arise in after stages of the inquiry, for no person can pretend to say whether it was diseased or not.

16. Examine the calvarium and the base of the skull for any fracture.—*Lancet*.

### DISSECTING ANEURISM.

The infrequency of this disease is perhaps sufficient reason for publishing the following case.

The patient was a strong, fine looking negro, a cook on board a Liverpool packet, aged about fifty, and except an occasional uneasiness at the epigastrium, evidently caused by indigestion, had enjoyed uniform good health.

Aug. 12th, 1844. He was attacked with severe colic, accompanied with hot skin, soft, full pulse, and previous constipation. Forty grs. of calomel, and i℥. of oil, accompanied with copious injections, cooled the skin and relieved the pain, but did not move the bowels; the loss of twelve or fourteen ounces of blood, about six hours after the calomel and oil were taken, produced slight faintness, and was soon followed by free evacuation of the bowels, and entire subsidence of the pain. He continued to improve, and by the 17th, was nearly recovered, complaining of nothing except weakness. On the 17th, after lying down for an hour, after dinner, he attempted to rise, but immediately fell back, and died instantaneously without a word. On examination, twenty-four hours after death, all the organs of the chest and abdomen were found healthy, excepting the heart. The pericardium contained about a pint of fluid blood, and the same of coagulated. The cavity of the left ventricle was dilated, being increased about one-fourth, and the walls proportionally thickened. The blood had escaped into the pericardium through an opening in the aorta, just above the semi lunar valves. On opening the aorta, the serous coat was of a dusky red appearance, and somewhat thickened, but uniform and smooth. Half an inch above the orifice of the aorta was a Z-shaped opening, about one-fourth of an inch long, through the lining of the vessel, and the inner lamina of the muscular coat; a passage for the blood was now formed between the two lamina, embracing from half to three-fourths of the entire circumference of the artery, and extending as far as we could examine (we were obliged to remove the heart by stealth, and examine at home, lest, by attracting the attention of two or three friends present, we should lose the specimen), which was about six inches. The origin of the innominate, and the carotid and subclavian, were plainly included in the disease, though to what extent we could not determine; and if any inference could be drawn from the part of the aorta preserved, and still in my possession, the dissection must have continued nearly, if not quite, to the iliac arteries. The rupture into the pericardium was circular and ragged, and situated a very little below the internal opening, which was smooth and even. The laminated structure of the middle coat was clearly apparent, and left no doubt that the fictitious canal was formed by a separa-

tion of the inner and outer layers of this tunic. The specimen is a fine one, and it is greatly to be regretted that we were unable to trace it out as far as it extended.

### MEDICAL JURISPRUDENCE.

#### DAMAGES RECOVERED BY A NURSE DISEASED BY A SYPHILITIC INFANT.

ASSISTANT BARRISTER'S COURT, CORK.—APRIL 3.

Before H. BALDWIN, Esq., Q. C.

A case of considerable interest to the medical profession, involving this disputed question, came on in this court this day, and was listened to with marked attention by a crowded auditory. It had been previously before the same barrister, but was "dismissed without prejudice," a medical gentleman deposing that the disease was not contagious. It was now brought forward, strengthened by testimony of high medical authority, for the purpose of showing that the opinion of that medical witness was fallacious.

The case was stated by Mr. Bryan Galway, who said it was a special action for a sum of £9 4s. 7d. damages by the plaintiff against the defendant, under the following circumstances:—In the month of September, 1844, the plaintiff's wife received a child from the defendant to nurse, at a yearly sum of £4. The child had a sore on its mouth, but no particular attention was paid to it. In a few days the plaintiff's wife became diseased, and she diseased her husband; in fact, all the family became ill. The plaintiff's wife, ascertaining the nature of the disease, returned the child to its parents. The nurse, who was pregnant, was subsequently delivered, and the child then born was also diseased, and in some time after died of it. The disease appeared to fasten on the plaintiff's wife, and to get cured of it she had to go into the hospital of the Cork Union Workhouse. Everything that medical skill could suggest to effect her cure was tried, but ineffectually, for the poor woman is still labouring under the disease. For this injury the action was brought to recover damages.

Evidence was given to prove the contract, and a quack doctor was called to show that he was to get 30s. from the father of the diseased child for the purpose of curing it of the corruptive sores on the body. This fellow called himself a "herbalist"—a cognomen which appeared to sound not altogether agreeable to the barrister, who remarked that it he caught one of them "herbalists" in his criminal court, he would know how to deal with him.

The brother of the plaintiff deposed to the good health of the plaintiff and wife previous to getting the child to nurse, and that the child had sores on the mouth, body, and penis.

Dr. O'Connor, physician to the Cork Union Workhouse, was sworn—He said that the plaintiff's wife was six weeks under his care, labouring under syphilis in a secondary degree; a child would convey the disease to the nurse; there was no doubt of that; a child might be born apparently free from that disease, and subsequently break out and communicate it.

Court—Is that opinion general?

Witness—That is the opinion of Sir Astley Cooper, Mr. Colles of Dublin, and the most eminent of the faculty.

Court—Is there any dispute about that now?

Witness—None whatever.

Court—Have you read the treatise of Ricord, the eminent French physician, on that subject?

Witness—I have not. I have read a review of the work, and though Ricord laid it down that secondary symptoms could not communicate the disease in a primary form, he never held that the secondary disease was not contagious in a similar degree.

Court—Have you seen the child?

Witness—No; the mother only, and she is not well yet. Dr. Christopher Bull, surgeon to the Cork South Infirmary, deposed that he had seen the plaintiff's wife about a week since; she was then labouring under the disease in a secondary form; he had met numerous cases where the disease had been communicated by children to nurses.

Dr. T. M. Ahern sworn—He had attended plaintiff and wife previous to September, 1844; they were in good health and free from disease; saw the child alluded to; it was diseased; plaintiff and wife became diseased, and are so still.

To the Court—Had no hesitation in stating that it was the child which communicated the disease to plaintiff's wife, for this reason, that her breasts were affected while every other portion of her body indicated no disease.

Mr. Scannell then raised a legal question as to the guilty knowledge of the defendant in giving the diseased child to nurse, contending it was necessary to prove that before the action could be sustained.

To meet this, the court inquired of the medical gentlemen whether it were possible that the mother of the child was not aware of the disease?

Dr. Bull replied that it might, but the chances were that she knew it. He himself had observed the disease one hundred times in nurses who got foundlings to nurse, and they were astonished when they ascertained the nature of the disease. It was of an invidious character, and lurking in the system. He had also seen cases of secondary where there had been no primary disease observed.

Court—How was the child affected?

Dr. Ahern—Both secondary and primary.

Court—How was the plaintiff's wife affected?

Dr. Ahern—In a secondary form.

Dr. Bull—That is invariably the case when the disease is communicated by a child to a nurse.

Court—As there is some difficulty in the case, I shall take time to consider it. If I grant a decree it shall be for the whole amount, as I look on these poor people to have been injured for life.

#### MORTALITY OF ILLEGITIMATE CHILDREN.

The frequent occurrence of illegitimate births in the Prussian province of Posen, has induced Dr. Cohen v. Baren to institute some investigations as to the injury resulting in them to the children, from the mother being placed in an improper position at the time of birth, as compared with injuries from the same cause in married women. Of fifty cases, thirty were born while the mothers were standing, seventeen while stooping or sitting, and two while kneeling. Of the fifty women, thirty-two were primiparæ. Of the children, forty were at the full time, and ten premature; of these latter, seven were above thirty weeks of uterine gestation. Of the nineteen which were born while the mother was stooping, sitting, or kneeling, one had a fracture of the skull; it was probable, however, that this was caused by laying a heavy stone on the child's head, for it was dropped on soft turf; in ten of these not the slightest contusion or ecchymosis could be discovered; in one, probably from dragging the cord, which was much shortened from being several times twisted round the fœtus, there was rupture of the liver. In twenty-five cases the umbilical cord was torn; in seven the placenta came away along with the fœtus, the cord being untorn; in fifteen the cord remained uninjured; and in three this point could not be determined. In the twenty-five cases, where the cord was torn through, eleven children presented ecchymosis, five fractures or fissures of the cranial bones, and one rupture of the liver. The conclusions from these investigations, compared with those which Henke gave in his critique on Klein's cases, are as follows:—1st. The proposition that the fall of children on the ground can cause dangerous injuries, and through these death, is proved; and although it must be regarded in general, as only an occasional cause of death, still cases are not wanting where injuries received in this way have been the sole and only cause. In illegitimate children, too, a trifling injury is of greater importance than in children born in wedlock, and may be the cause of their death. 2nd. It

is proved that the fall is not invariably followed by death, as many children have fallen without receiving the slightest injury. 3d. That if unexpected protrusion of the child is frequent in persons who do not conceal their pregnancy, it is much more frequent in those who do. 4th. In unmarried females, it occurs chiefly in primiparæ. 5th. The assumption, that unmarried females being generally long in labour, the injuries observed on the foetal head are to be attributed to its long detention in the pelvis, is correct in a very few instances. 6th. The unusual conditions in which women who bear illegitimate children bring forth, show that very slight contusions, concussions, and extravasations, arising from the parturient process, may be followed by death, and therefore the medical jurist ought to be very careful in attributing such traces of injury (even though very considerable), to violence intentionally applied. 7th. Of four children born in an unusual position, in three it can be affirmed that the cord was broken by the act of parturition itself. 8th. Injuries of the head are to be ascribed to the fall, more especially where the ground is hard, rather than where it is soft. 9th. The integrity of the cord is an obvious prevention to the production of injuries of the head; and where injuries are met with under such circumstances, we must rather suspect that they were induced by violence applied in some other way. 10th. In delivery, in an unusual position, the cord is generally torn; it is seldom that the fœtus remains in connection with the placenta in the uterus, and still more seldom that both come away together with the cord entire. 11th. Illegitimate children show a less degree of physical development.—*Preussische Verein Zeitung, in Northern Journal of Medicine.*

## SURGERY.

### LECTURES ON DISEASES OF THE KNEE-JOINT.

By Sir B. C. BRODIE, Bart.

#### LECTURE III.

##### SCROFULOUS DISEASES OF THE KNEE-JOINT.

Delivered in the Theatre of St. George's Hospital, Jan. 21.

(Continued.)

Having described in the last lecture the symptoms of scrofulous diseases of the knee-joint, I have now to speak of its treatment.

In former times this disease was confounded with a number of others, under the general appellation of *white swelling*, and they were all treated very much in the same way. Blisters, setons, issues, and other kinds of counter-irritants, were had recourse to. Such was the common practice when I was a student in this hospital, and for a long time afterwards. It was a most unskillful procedure, and in a large proportion of the cases, if not in the majority, the loss of the limb was the consequence. Other modes of treatment, however, were occasionally had recourse to. One person recommended one thing, another person recommended another. Some of the remedies employed were innocent enough (poultices of sea-weed, for example), while others, such as friction and chamooping, were as mischievous as possible.

I need not occupy your time by describing the other methods of treatment which were formerly proposed, or which are, to a certain extent, now in use. It will be better that I should at once explain the results of my own experience on the subject. First, let me say a few words as to what ought not to be done; and a very important consideration this is on many occasions. Blood ought not to be taken away from the joint, either by leeches or by cupping, and far less should it be taken from the general system. The disease depends on a weak state of the constitution, and the abstraction of blood will only tend to its aggravation. Neither blisters, setons, issues, tartar emetic ointment, nor any other kind of counter-irritant, ought to be employed. Such remedies torment the patient, they make him ill from the general disturbance of the system which they produce, they lower him by the continued discharge of matter, and do no good whatever to the malady.

I express this opinion in the strongest and most confident manner, having seen this kind of treatment extensively practised formerly, and being able to compare the results with those arising from the treatment which I have since employed.

There is one great principle to be attended to in the treatment of all diseases of joints—namely, that the joint should be kept in a state of perfect repose. If there were an inflammation or a sore in the leg, and it were rubbed all day long, would that inflammation ever subside, or that sore ever heal? If a diseased joint be subjected to friction, as it must be when it is kept in motion, is it likely that a cure can be effected? There is no mode of surgical practice more important than this, that a diseased joint should be kept in a state of perfect immobility. In the early stage of the disease that is the only local treatment that is required, and, indeed, it is the chief thing to be attended to even in its most advanced stages.

There are different methods of keeping the knee in a state of immobility. The simplest method is that of employing the leathern splints which I formerly mentioned, one on each side of the joint. It has the advantage of giving very complete support; at the same time that the splints are easy to be worn, because they exactly fit the parts to which they are applied, and that there is the further advantage of the patient being able to take them off and put them on for himself. An apparatus that is not easily removed is liable to great objection. There may be an attack of inflammation, causing a sudden increase of the swelling, and requiring the splints and bandages to be removed and readjusted; and if these be of such a kind that the patient cannot readily do what is wanted himself, he may suffer torture until it is done for him by his surgeon. I need not occupy your time by explaining that a continuance of pressure on the joint when it is inflamed and trying to swell, cannot be otherwise than productive of great mischief.

But while the joint is kept in a state of perfect repose, attention must be paid to the general health; for the disease having its origin in a morbid condition of the constitution, it is needless to attempt to cure it by mere local treatment. It must be plain to you that no general rule can be laid down on this subject. It may be that the evacuations are of a white colour, the bowels confined, the tongue furred, and it may be requisite in the first instance to have recourse to a course of blue pill or gray powder, and occasional purgatives. But as soon as the digestive organs are brought into a proper state, the patient will generally be benefited by the exhibition of what are called *tonics*, but especially of some preparations of iron. To children I give the *vinum ferri* of the old pharmacopœia, proportioning the dose to the age of the patient. This generally agrees with him very well; and if to this be added the occasional exhibition of purgatives, other medical treatment is seldom required. The patient may take this or some other preparation of iron for three weeks, omit it for ten days, then resume it for three weeks, and so on for an indefinite period: by which I mean to express as long a period as two or three, or even four or five years; our object being not so much to cure a particular disease as to mend a weak constitution. Diseases may often be cured in a short space of time, but a weak constitution cannot be rendered a strong one until after the lapse of some years. The patient generally requires to be watched whilst he is using these remedies. They may over-stimulate him and make him feverish, and then the dose requires to be diminished, or the medicine must be omitted for a time, to be resumed afterwards. I have mentioned the *vinum ferri*, but other preparations—for example, the *tinctura ferri murialis*—may be exhibited, or the syrup of iodine of iron. I sometimes give the latter and the *vinum ferri* alternately. It appears to me that in these cases

large doses of iron are not required; small doses introduced into the system, off and on, for a great length of time, are what you are to rely upon. Five patients out of six will be benefited by taking iron. Every now and then, however, a patient is met with, with whom no form of iron agrees, and recourse may then be had to quinine, bark, or the alkaline solution of sarsaparilla. The latter combination agrees very well with delicate children, and may often be given with advantage in alternation with preparations of iron.

But the object being to improve the constitution, much will depend on other things besides the exhibition of medicine. A scrofulous child will not prosper in the air of a crowded city, though he may do very well in the country. In general, patients are benefited by a residence at the sea-side—that is, by having the opportunity of breathing the sea-air during a considerable portion of the year. Sea-bathing may be serviceable under certain circumstances, but I have no doubt that the advantage of it is very much over-rated. It does good, because the patient must go to the sea-side to obtain it, but I question whether sea-water baths are in themselves better than any other baths. A long while ago, a person, being encouraged to do so by the medical practitioners of that day, established some sea-water baths near the Strand. A vessel went to the Nore three times in a week, and was so constructed that it filled itself with a supply of sea-water. There was a large plunging-bath, and some excellent warm sea-baths, quite as good as can be procured at Dover or Brighton. At first they were popular; patients went there either of their own accord or because they were sent by their medical advisers: but every year there was a little falling off, and in the course of a few years the proprietor, finding that he had scarcely any customers, was compelled to give them up. The fact was, the public found out by degrees that sea-baths without sea-air were of little avail. The same observation may be made respecting other methods of using sea-water. A child goes to the sea-side, towels wet with sea-water are put on, or a great quantity of sea-weed is tied round the knee; and this is supposed to do good, but it is a poor substitute for the leathern splint. The fact is, the child's health is improved because he is breathing the sea-air, and the good thus obtained is attributed to other causes. It is also well for the patient to live on a plain but nourishing diet, and to be as much as possible in the fresh air; care, however, being taken that he should not be exposed to cold; and with this view, whenever he leaves the house, or lies at an open window, he should be well wrapped up, and defended from changes of temperature by warm clothing.

This is the whole of the treatment that is required in ordinary cases, and it is for the most part eminently successful. Indeed, when you are called to a young person with scrofulous disease of the knee in good time, before matter is formed, and in whom there is no visceral affection, it will scarcely ever happen that the case does not end well.

But let it be observed, that no good can be obtained without perseverance. It may be necessary for the patient to wear the splints sometimes for three months, sometimes for six months, and sometimes even for a year; while the constitutional treatment may be required for a much longer period.

But perhaps the joint is contracted, the leg has been kept bent upon the thigh, and at the end of a certain time it becomes a question whether it can be made straight. You may effect this object by applying the instrument with a screw described in a former lecture. Violent extension on this, as on other occasions, is to be avoided. By little and little, and by very slowly turning the screw, the leg

is to be brought into the straight position. Then no harm will happen, and not only the usefulness of the limb will be saved, but actually the mobility of the joint in many instances.

In the more advanced stage of the disease, when abscess is formed, the cure is much more doubtful, and at any rate is much more tedious; but the principle of treatment is exactly the same. If there be abscess, there is still greater reason for keeping the joint in a state of repose than if there be not. When the abscess presents itself externally, and the skin over it is tender, the splint which presses on that part must be left off, but the other may be allowed to remain. Sometimes, however, the abscess is so situated that both splints must be left off for a time, and the joint fomented and poulticed, as in other cases of suppuration. As soon as the skin becomes thin, open the abscess; you will save time by doing so. When the abscess has been opened three or four days, re-apply the splints, placing some simple dressing over the orifice of the abscess. A little change is now required in the splints, inasmuch as they must be lined with oil-silk, in order to prevent them from being spoiled by the purulent discharge.

When abscess has formed, you must generally be well satisfied to save the limb, without expecting to save the mobility of the joint. I do not say that the latter object will never be attained, but in nine cases out of ten, after the formation of abscess, there will be an ankylosed joint. This is not a great inconvenience provided the limb be in a proper position, but it is a very great one indeed if it be ankylosed at a right angle. To prevent this, notwithstanding the abscess, the machine with the screw may be had recourse to, so as to straighten the leg. Sometimes, in the case of abscess, when it is closing, a small piece of bone exfoliates, and it may be that several pieces may exfoliate afterwards. When exfoliation occurs, there is always ankylosis: the process of cure is very tedious, and in fact, many years often elapse before it is so complete that no more separation of dead bone takes place. All that I have just now stated shows how important it is that the case should come under judicious treatment before abscess is formed. It makes, indeed, all the difference as to the period of cure. If matter be not yet formed, it may almost to a certainty be prevented, and a few months may be sufficient; but if there be a single drop of matter, it becomes the nucleus of a large abscess; and then, not only many months, but some years, may elapse before the cure is complete.

I have said, that under proper treatment, especially if consulted in the early stage of the disease, you will seldom fail in preserving the limb; still you will not do so in all cases; and sometimes, from the bad state of the constitution, and in spite of the best treatment, the disease will go on. If a child be brought into the hospital in whom the disease has been neglected for years, so that the joint is entirely destroyed, nothing better can be done than to amputate the limb: but is the operation to be performed in all these cases indiscriminately? Indeed it often requires a great deal of judgment as to whether you should amputate or not. I am always unwilling to resort to amputation, because I think a limb so valuable that it is worth the patients while to run some risk as to life, if there be a chance of preserving it. But there are other reasons for hesitating about amputation. I have frequently known cases in which, immediately after a scrofulous knee has been amputated, symptoms of disease in the chest have become developed, and the patient has died of tubercles and vomica in the lungs; and I have known other cases in which, under the same circumstances, he has sunk under disease, of the mesenteric glands, or hydrocephalus.

Before a limb is condemned, careful inquiry should be made as to the state of the general health, and pains taken to ascertain that there is no disease going on in other organs. If one knee be amputated, and disease has begun in the other knee, or in the lungs or mesentery, the probability is that this other disease will go on with increased rapidity. But, on the other hand, where disease has occasioned great mischief in the knee, the limb ought to be amputated rather than that the patient's constitution should be worn out by it; and it should be always borne in mind, that although disease in a joint does not directly destroy life, it may do so indirectly, by producing such a state of exhaustion as is favourable to the development of disease in the lungs and other viscera. If by examination with a probe, it be ascertained that there is a piece of dead bone connected with the interior of the joint, and so situated that it cannot exfoliate, the limb may be given up at once; there being no chance of a cure, and no remedy but amputation.

I have stated that where an abscess is formed, if the patient recovers, it will be generally, with an ankylosed limb. Bony ankylosis will take years for its completion. A knowledge of this fact is of importance, as it shows that if the limb be bent, there will be plenty of time to get it into its proper place.

The disease of which I have now spoken is one of the most common in surgery, especially in children; and there is no disease the result of which is more affected by surgical treatment than this. Under wrong treatment it will generally go on from bad to worse, until the joint is destroyed and the limb is lost; whereas, under good treatment, in nine cases out of ten the patient will recover. It is therefore a subject especially worthy your attention as practical surgeons.

*Primary ulceration of cartilages of the knee.*—In the last and preceding lectures I have alluded to the ulceration of cartilages. In the cases which I have hitherto mentioned they become ulcerated as a consequence of disease in other textures; but sometimes this process takes place apparently from disease originating either in the cartilage itself or in the surface of the bone to which it is connected. It has been said that cartilage does not possess blood vessels, and therefore that it cannot ulcerate from an action originating in its own structure, but only from the influence exercised upon it by the vessels of the parts which are in contact with it. But in growing persons it is evident that cartilages are sufficiently endowed with vascularity. On making a section of the articular cartilages of a child, large vessels are perceived in it injected with blood. Nor can it be doubted that in adults the cartilage possesses vessels, or some structure that answers the same purpose. Are not cartilages constantly exposed to friction; and if they have not the power of self-repair, what is to hinder their being worn away in consequence? A man walks or labours all day long, rubbing the cartilages of all the joints against each other; nevertheless they remain uninjured through the whole of a long life. Then they are subject to a particular alteration of structure, indicated by a fibrous degeneration, of which this preparation affords a good specimen. Such an organic change may occur at any period of life, but it is of very frequent occurrence in old persons; and this cannot be explained except we suppose that they possess either blood-vessels, or something equivalent to them. I mentioned in the last lecture, that in cases of scrofulous disease of the joint I have seen blood-vessels injected with red blood extending from the diseased bone into the cartilage connected with it, and ramifying on its substance. The same appearances have been observed by Mr. Mayo and Mr. Liston. Here is a preparation taken from a boy who had met with a compound fracture of the thigh. The femur was separated at the epiphysis, and some time afterwards it was necessary to amputate the limb. There was no matter in the the joint, no fluid, and no

inflammation of the synovial membrane; the surface of the cartilage in contact with the bone was entire, but towards the articular cavity it had in many places disappeared, as if a portion of it had been removed by a chisel. There are several preparations in the museum, showing the same kind of absorption of the articular cartilages; and if you will take the pains to study them, you will be satisfied that what I have now stated is correct.

In adducing these facts, however, I do not mean to say that in what I call primary ulceration of the articular cartilages, the ulceration always begins on the surface which is towards the articular cavity. There is reason to believe that, in some instances, the morbid action originates in the surface of the bone with which the cartilage is connected, extending from thence to the cartilage itself; and in practice I do not pretend to distinguish these two orders of cases from each other. The disease may, for the most part, be traced to rheumatic inflammation, having this peculiarity, that it is confined, in the first instance, to the harder textures. There are, perhaps, wandering pains, first in one shoulder, then in the other, then becoming, as it were, concentrated in the knee; the cartilages of which soon afterwards begin to ulcerate.

On examining the joint in an early stage of the disease, the cartilage is found to be absorbed at one point, and the surface of the bone exposed and carious. Probably there is no effusion of any kind in the joint, neither serum nor pus; but the exposed surface of bone is more vascular than under ordinary circumstances. As the disease advances, the ulceration of the cartilage becomes more extensive, and when it has attained a certain point, pus is formed in the joint. As in some cases there is suppuration without ulceration, so in these there is ulceration without suppuration. As I have observed in a former lecture, the two processes are generally combined, but there is no necessary connection between them. The cartilages at last become destroyed throughout the knee—on the femur, the patella and the tibia. Sometimes, when abscess forms, it is limited by adhesion to one part of the joint, and then perhaps suppuration takes place in another part of it. In other cases the abscess is not so limited; the whole joint is distended with matter, so as to form one large abscess; and in this stage of the disease the bones in the neighbourhood of the joint become inflamed and dark coloured; the matter lodging in the cancelli becomes putrid, probably a portion of the bone loses its vitality and exfoliates into the articular cavity, while the abscess finds its way out in various directions, making numerous sinuses under the fascia and among the tendons, before it presents itself externally.

While these changes take place in the affected joint, they are indicated by the following symptoms. Generally, as I have already mentioned, there are rheumatic pains in other joints in the first instance; by and by the pains are, as it were, concentrated in the knee. The pain is very severe, and yet the joint is scarcely at all swollen, or rather I should say that there is no swelling in the first instance. After a time there is a slight general enlargement of the joint, the consequence of a deposit of lymph or serum outside of the synovial membrane. The swelling assumes the shape of the articulating ends of bones, and appears greater than it really is; because the muscles of the thigh are wasted above, as those of the leg are below. The pain is aggravated by motion, and there is a painful starting of the limb at night. The pain is especially aggravated by pressure on the patella, and whenever, in this or any other case of disease of the knee, this symptom exists, you may suspect that the cartilages of the joint are beginning to ulcerate. The disease may go on not only for weeks but for many months, the patient's health suffering all the time, from disturbed rest at night and constant pain in the day, and yet without suppuration taking place. By and by matter forms, and there is

then an aggravation of all the symptoms. The matter, as in all other cases of abscess connected with the knee-joint, burrows in various directions among the muscles and tendons, making numerous and circuitous sinuses;—but it would be needless for me to repeat what I said on the subject of abscesses of the knee in the two preceding lectures.

With regard to the treatment of this disease, it is important, in the first place, that the joint should be kept in a state of the most perfect repose; and splints are required here as in other cases of chronic affection of this joint. Although I believe that issues, setons, blisters, and counter-irritants, actually do harm rather than good in some other cases of diseased joints, yet I believe them to be beneficial here. A caustic issue inserted on each side the patella will very often stop the pain and the starting of the limb at night, when other means have failed. Nevertheless issues are not always required, and in fact in the majority of cases they may be dispensed with. What, then, is the chief remedy to be employed? That which is used for chronic rheumatic inflammation elsewhere. Mercury given as for irritis or chronic inflammation of the testicle, is here productive of the greatest benefit. Two grains of calomel and one-third of a grain of opium may be exhibited three times daily till the gums are affected. The influence of this agent in stopping rheumatic ulceration of the cartilage is remarkable. In fact it very seldom fails, if given before suppuration is established.

But some patients cannot take mercury; either it disagrees with them, or for some other reason you do not like to give it; and then sarsaparilla or the iodide of potassium may be substituted with great advantage. Mercury, however, is on the whole the most efficient of the three remedies, and next to that, sarsaparilla. In many cases the best mode of proceeding is to exhibit mercury in the first instance, until the disease is arrested, and then follow it up by a course of some good preparation of sarsaparilla. The mercury should be exhibited till the gums are somewhat sore. If it disagrees in one way, try it in another. Mercurial ointment may be rubbed into the thigh in the usual manner, when the patient is unable to take it internally.

In the great majority of cases, as I have already stated, no other treatment is required than splints, to keep the joint quiet, and the putting the system under the influence of mercury first, and of sarsaparilla afterwards; and it is only if these remedies prove to be not sufficient that recourse need be had to caustic issues. I formerly used to make them in the first instance, and undoubtedly with benefit; but I do not recommend them in the first instance now, because I find that much more dependence can be placed on other treatment, and that it is well to dispense with a troublesome and painful mode of treatment if you can. Getting rid of their use in cases of inflammation of the synovial membrane, and where there is scrofulous disease of the joint, and employing them only now and then in this particular disease, you see how seldom it is necessary to have recourse to them.

If abscess be formed, it will require to be treated as in cases of scrofulous disease. Make a free opening, do not squeeze or compress the part, but let the contents of the abscess flow spontaneously. I have explained to you that the scrofulous disease of the joint occurs usually in children. This affection rarely occurs except in the adult. It is owing to this that when matter once forms the limb will seldom be preserved, there not being the same powers of repair in the adult as in a child.

If matter be not already formed, the limb may, I believe, always be preserved; and in the majority of cases the mobility of the joint also. Of course where the cartilage is extensively destroyed, this last good result must not be expected; and the patient must be well satisfied if he re-

covers with ankylosis. In severe cases of the disease, the progress of it towards ankylosis is sometimes very rapid. In one case, in which the symptoms were of a more than usually urgent character, the patient recovered under the mercurial treatment; but when, at the end of about three weeks, the symptoms had subsided, the knee was found to be completely fixed, and the mobility of it was never restored.—*Medical Gazette*.

## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. WILKINSON KING,

Lecturer on Pathology at Guy's Hospital.

[Continued from Page 45.]

SECTION III.—*The Hunterian method of tying vessels was not by cutting ligatures, and not the less secure. Great vessels closing spontaneously. Scarpa, C. Bell, and P. Crampton, for gentler ligatures.*

Mr. Hunter observed, that "in dogs the mere exposure of the tibial artery to the air for about an hour excited such a degree of inflammation and thickening of its coats as completely to obstruct its canal" (On the Blood). Mr. Frere gives a very pretty drawing of the tibial of a horse, thickened and narrowed by recent active inflammation in consequence of pressure used experimentally. We see inflammations, granulations, and contractions, closing up wounded arteries of limited size, and shutting up the vessels in vomical cavities. Other facts of this kind will yet be adduced of even greater importance.

It is remarkable with what negligence authors in general have regarded solid principles, with respect to a fair and broad theory of closing arteries.

Considering all that yields to the blood pressure in arteries; how tegument, muscle, nerve, ligament, and bone, are eaten away under the pressure of an aneurism, or a new vascular growth; where shall we look for organic forces capable of resisting such tensions? The answer is not doubtful nor scanty.

A certain hypernutritive action, or a subsequent contraction, may, in spite of aortic distension, close up the orifice of the coronary artery, the carotid or intercostals, and narrow the aorta itself as well as all its main branches.

The pulmonary artery being absent or imperfect, the bronchial branches of the aorta become extremely enlarged in consequence of the great facility with which the blood is transmitted, but this change is not extended equally to the orifices of the bronchial arteries, because the tensions of the aortic tube keep up that measure of nourishment in its coats which is common to the vessel in its normal state, and these tensions have more influence around the mouths of vessels than the forces which dilate the vessels themselves.

Such facts are neither solitary nor devoid of practical indications.

It is a similar effect when the tissues of organs become condensed almost to the exclusion of blood, and it is a momentous reflection, that very little more than granulations about an artery may contract to the blocking up of the channel.

The old mode of tying vessels gave 75 per cent. of successful cases. It does not appear that the new or tight ligature has had quite as great success when applied to the same vessel, namely, the femoral.

On the other hand, it may be said that, according to record, the tight ligature of still larger arteries has met with success nearly equal to that recorded for the Hunterian method applied in the thigh. Yet the records may deceive us here. In former times it seems almost to have been credit enough to record an operation, while in latter times, as to ligature at least, the operations may be said to be common, and the dignity of success more needful for an attractive narrative, unless the accounts involve rare particulars.

Modern successes, too, have depended something on less advanced stages of the disease.

Those who desire to have the clearest idea of the Hunterian ligature, must divest themselves of all modern notions, and read

\* Crampton, Med. Ch. Tr. vol. vii. p. 345.

† There is a curious result of tension in the mouths of some arteries when unnatural changes occur in the direction of the circulating blood.



Hunter for themselves. Of course the surgeons of old knew something of the closure of minor vessels when cut, and of the surgery of amputations, and of laying open aneurisms.

I think it is abundantly evident, and hardly less ridiculous, that in spite of the distinct expressions of Hunter and his followers, Mr. Jones starts with the assumption that, if an artery be well tied, the inner tunics are divided.

I should say, judging from a series of human specimens, the repair internal to the vessel is nothing in any case. Dr. Jones made quite enough of external effusions to become organised (in which I have no present trust.) Mance seems to omit all idea of salutary external changes. Wishing to be brief even as to what is real and positive, I cannot dwell on these discrepancies.

A measure of unhealthy inflammation diffusing may disorganise some extent of arterial tunics to induration, contraction, and internal effusions, &c. Experiments on young animals may cause great effusions around the vessel; in other cases, human, &c., the inflammation or repair is most limited, as it should be. In a healthy body, parts alone should undergo changes as they have been injured, or are subjected to new physical or other influences.

In Mr. Hunter's third attempt to secure the femoral artery for popliteal aneurism, in a man æt. 35, a single ligature [including also the vein] was applied "so slightly as only to compress the sides of the artery together, sufficiently tight to prevent the pulse in the sac, without injuring the coats of the vessel." The separation took place on the 14th day, and on the 28th the patient seemed well. The sac suppurated, and the cure was complete by the 12th week. In his fourth case the vein was excluded; the thread separated on the 29th day. Suppurations and ægue delayed the cure for three months. The fifth patient was a man, æt. 42; the ligature came off on the 11th day; he was well by the fifth week.

Mr. Lynn's patient was aged 25; a broad ligature was tied so as to cut off all communication with the tumor in the ham; it came off on the 13th day, and he was well in a month.

Mr. J. Earle, on a man æt. 50, employed a simple ligature, which separated on the 15th day, with the best success.

Sir E. Home's second or supplementary paper contains similar cases. He operated on a man, æt. 32: the thread came off on the 11th day, and the cure was complete in five weeks; and on a man, æt. 36, the separation was on the 12th day, and on the 28th he was well. Sir E. put a ligature on the femoral of a man, æt. 33; it came off well on the 12th day. On the 32d, the like was done to the opposite vessel, which, after thirteen days, gave rise to repeated bleedings. These were finally subdued by pressure, &c. Mr. Knight tied the vessel for a man, æt. 35. There was a slight hæmorrhage from the wound on the 23d day; the separation was on the 31st, and the cure speedy.

All these ten successes I must connect with the gentler ligatures, although I may be wrong. It seems quite certain that they long preceded the odd discovery,† of what happens on tying an artery with force enough to cause that sudden giving way of almost every thing, which is felt almost unpleasantly even post-mortem.

It may be inquired what were the unsuccessful cases of the first Hunterian experiments? They are few and instructive, but by no means prejudicial to the main point of our present consideration. Sir E. Home's concluding case was that of a gentleman, who probably drank to the last. Active inflammation and bleedings on the 11th and 12th days were fatal. Hunter's first attempt is no slight lesson. A man, æt. 40, had four ligatures put on the femoral artery and veins at once, and tied so slightly as only to compress the sides of the artery together. On the ninth day there was bleeding; on the fifteenth a thread came off, recovery was only retarded by abscesses, discharging ligatures, &c. His second experiment was to use one ligature to both artery and vein to stop the current; it came off on the 14th, and on the 19th there was hæmorrhage. A fresh ligature led to fatal bleeding a few days afterwards. I conceive that if the wound had not been forcibly kept open the bleeding would not have occurred, or would have been trivial.

History must tell all that succeeded the true Hunterian operation. Ligatures thick and thin, round and flat, long and short, soft and hard, double or sixfold; ligatures of reserve and temporary, upon cork or plaster, or even with a bougie to plug the artery.

† Dessault in France, and J. Thompson in Scotland, share this honour. It was dividing arteries that introduced very tight ligatures.

the presse artere, serre artere, &c. &c.; these were some of the modifications that had their day. England adheres to tight ligature, and calls them Hunterian, without a shadow of authority. All Europe besides is at least less confident.

There is yet a good variety of experience in favour of gentle ligatures. There are abundant scattered cases of Hunter's immediate followers at home and abroad, and I have already shewn by the calculations of Mr. Phillips that the success was good.

Early in the seventeenth century M. A. Severinus once tied the femoral with success. In 1688, we learn that Bontentuit succeeded with a simple ligature, and before 1772 Guttani exposed the inguinal, and with graduated compress or roller closed it speedily. All this I attach to loose ligatures rather than cutting ligatures: always remembering, however, that inflammation of the arterial tunic may casually aid the final contraction of the orifices, while the indispensable sealing of the divided vessel in the absence of such casual contraction depends essentially on external fibrous tissue, as it were two little acorn-cups united by their stalks, new growth fashioned by definite tractions and tensions. The products of diffused inflammation around may be useless or mischievous, but the shining threads and bands stretched over and between the two compressed ends of the artery (as they gradually recede from each other,) close over the separating ligature, and are invaluable and alone indispensable. Violent inflammations may leave unequal consolidation and contractions even to obliteration of vessel for inches.

Scarpa's cases afford some remarkable evidence in favour of slow ligatures, and even of late hæmorrhage. (See his Appendix.)

For a man, æt. 25, he cut open a femoral aneurism, and applied two moderate ligatures. There was bleeding on the 11th day, stayed by his reserve ligature with compression. The separation was on the 20th, and the cure good [1794.]

A man, æt. 33, had a sixfold thread put on the femoral with one of reserve. They came away on the 16th: after the 20th there were bleedings, but the case did well. [Morigi, 1796.]

Scarpa's full plan was put in force on a man, æt. 42. Two sixfold ligatures with compresses were put on the femoral. They came away on the 18th. A little blood oozed from exertion, but the cure was speedy, [1800.]

The same is related of a man of 46, except that there was no bleeding, and that after the 36th day fatal sloughing supervened in the sac, [1799.]

And again, the same as the last, but the casting was on the 21st, and abscess only retarded recovery, [1804.]

One of his cases is harder to dispose of. The full treatment, if I may so speak, was applied near the profunda of a man æt. 34. The separations seem to have been near upon the 8th day, and without any mischief, [1803.] What would the cutting ligatures have done?

His full plan was thrice employed with success on the brachial, the six ligatures separating all between the tenth and thirteenth days. Latterly Scarpa had again and again fair success by applying a loose ligature over plaster on the femoral artery only for four days. Just so likewise on the brachial artery.

Mr. P. Crampton applied a tape  $\frac{1}{4}$  inch wide by means of a presse artere on the superficial femoral, and the tightening was stayed just as the tumor ceased to beat. After two hours the tape was somewhat loosened, and at the end of 24 hours completely relaxed. In due time the aneurism seemed to be fairly stopped. Mr. Dease did the like operation, continuing the pressure for about 24 hours. The cure seemed complete in a month. [M. Ch. Trans. vol. vii. 369.]

Sir C. Bell [It a thread quite loose around the artery of an animal; the vessel became quite filled with clot, shewing that the coats inflamed.]

Sir C. Bell [Institutes of Surgery,] distinctly observes, "it is not necessary to draw the ligature so as to cut the inner coats of the artery, and it is not safe, unless in young and healthy subjects, and in amputations. You will observe that the important consideration is, the mode in which a ligature should be employed in old arteries subject to aneurism. It is very dangerous to apply the experience acquired in operating upon the healthy subject to the subject of aneurisms—far less is it safe to draw conclusions from experiments on brutes! Any mode of securing the artery will do in the young and healthy individual, and in amputation."

The latitude which Sir Charles gave his pupils, seeing he was almost singular in his doctrine, may seem natural; yet, I must think it beyond the point of safety in any case. It would have been well to explain fairly what he deemed "folly." One mo-



dern declares for tight ligatures, even exaggerated with an adjective oath.

Sir Philip Crampton certainly ranks with Sir C. Bell as an opponent of the ever daring followers of Jones. We have seen that one-seventh of the successful ligatures have caused some hemorrhage; and we have seen that the event is least serious when late; and we may at least contrast with the violent practice, the suggestion that, in a given proportion of cases, the most proper mode for the particular constitution to separate a considerable ligature, is with some bleeding; that is, that the surgeon should anticipate slow and scanty repair, and that all his views should be directed to such a mode of cure. At all events, it is most certain that both local and general circumstances are now and then imminently dangerous, in proportion as the ligature is made to destroy the scanty films which temporarily restrain the efforts made by the blood to burst out; and safe in proportion as the granulating repairs [or the like] are matured to shut the door after bleeding has diminished the irresistible tension within. Yet, no doubt, the fear of erosion, or wasting, may be greatest after depletions.

I imagine the successes of Ascalini's forceps depend mostly on repair external at least to the lining of the artery, and certainly not on division of this membrane; and some decided evidence for gentle ligatures and correlative principles is found in the history of the suture-artery animal ligatures, and the practice of some able American surgeons, [Vide Reese's American edition of Cooper's Dictionary, and H. G. Jameson, in American Med. Recorder, 1827.]

It will be seen that I regard cure after hemorrhage as a proof that the main sealing is external; and it will be understood that what I describe as the sole essential repair is consistent with the least of what is called inflammation, and the scantiest material re-formations. It is certain that the least diffused inflammation consistent with the injury done to a healthy body, is that on which we ought to reason when considering healthy repair; the more complicated case follows—thickening and contraction of vessel, in the second place; inflammatory changes within, in the third place.

I regard as quite insignificant the common, narrow, conical clot, small and loose, except that its base or nucleus is attached to an inorganic effusion the size of a pin's head, where the vessel is gathered up to a mere point.

## MIDWIFERY.

### ON THE CONTAGIOUSNESS OF PUERPERAL FEVER.

By SAMUEL KNEELAND, jun., M.D., of Boston.

In most contagious diseases, occurring in large cities, it is difficult to trace the communication from one individual to another, from the continual intercourse carried on; and therefore it is chiefly the physicians of such large communities who are the strongest opponents of contagion—but in puerperal fever the circumstance of a large population has no relation to the question of contagion, owing to the peculiar state of those exposed to its attacks. When, therefore, we see this disease occurring solely, or chiefly in the practice of a single physician, in a large town, to use the expression of Dr. Blundell, "stalking behind him, wherever he goes, like his evil genius," we are surely justified in attaching some importance to such facts.

This coincidence has been mentioned by most writers on puerperal fever, the opinions of some of whom we shall now mention.

Dr. Gordon, in his account of the epidemic which raged at Aberdeen in the years 1789 to '93, says, that he could foretell what woman would be attacked upon hearing by what midwife they were to be delivered; and that in almost every case his prediction was verified.

Mr. White of Manchester, observes, that he is acquainted with two physicians who have the whole business of midwifery in a large town divided between them; one loses several patients every year by the disease, while the other has not a single case.

Dr. Armstrong, in his essay on the Sunderland epidemic, mentions several instances of a similar confinement of the disease to one man's practice.

Dr. Ramsbotham, Lee, Gooch, Robertson, Hutchinson, Blundell, and a host of others, mention the fact of the greater number of observed cases occurring in the practice of single individuals, while their medical brethren had no cases.

Dr. Holmes (in the *N. E. Quarterly Journal of Med. and Surg.*) speaks of a series of cases in an American journal, observed by Mr. Davies, who says, "in the autumn (1822) he met with twelve cases, while his medical friends in the neighbourhood did not meet with any, or at least very few." He also mentions nine cases occurring in the practice of Dr. Pierson of Salem, in 1829. "Up to this period," says the latter, "I am not informed that a single case had occurred in the practice of any other physician," admitting, however, that his information may have been defective. In a letter addressed to Dr. Storer, it is stated: "about three years since, a gentleman in extensive midwifery business in a neighbouring state, lost, in the course of a few weeks, eight patients in child-bed, seven of them being undoubted cases of puerperal fever. No other physician of the town lost a single patient by this disease during the same period."

In the *American Journal of the Medical Science* (for Oct., 1842, p. 410,) is the quarterly summary of the Transactions of the College of Physicians of Philadelphia, from which we extract the following: Dr. Condie, having alluded to the prevailing puerperal fever of a peculiarly malignant character, observes that, "in the practice of one gentleman, extensively engaged as an obstetrician, nearly every female he has attended in confinement, during several weeks past, within the above limits, had been attacked by the fever." If it be not contagious, "how otherwise can be explained the very curious circumstance of the disease in one district being exclusively confined to the practice of a single physician, a fellow of this college, extensively engaged in obstetrical practice—while no instance of the disease has occurred in the patients under the care of any other accoucheur practising within the same district. Scarcely a female that has been delivered by this gentleman for weeks past has escaped an attack."

These and many other authorities which might be adduced, prove beyond doubt the singular confinement of the disease to one man's practice. But how can this fact be explained? We should not wonder at it if occurring in the pestilential wards of an hospital; but in private practice it is certainly very strange, that the disease should follow precisely the steps of one unlucky individual, tracing him far and wide with the certainty of a bloodhound. Considering the exceeding rareness of the disease (comparatively) even in private practice, it certainly seems impossible to attribute to mere chance the numerous well-authenticated instances of the above fact; they who can swallow the immense improbability of the doctrine of chance in this matter need hardly strain so much at the infinitely less improbability of contagion.

Clearly connected with the above fact is the question of its propagation by being carried by physicians and nurses. The whole question turns upon this; for although the succession of effects to causes does not absolutely prove the dependence of the former on the latter, if it can be shown that the instances of contagion (supposed) occurred very much more frequently (and in many instances solely,) where there was communication between a physician and those affected, and where there was no such communication, are we not justified in a measure in establishing the relation of causation? The question of the contagious nature of a disease, according to Dr. Alison, (and the same reasoning may be applied to all sciences, as well as medicine,) always ultimately turns on a calculation of chances. "The question always comes to this—is the circumstance of intercourse with the sick followed by the appearance of the disease in a proportion of cases so much greater than any other circumstance common to any portion of the inhabitants of the place under observation, as to make it inconceivable that the succession of cases occurring in persons having that intercourse should have been the result of chance? If so, the inference is unavoidable that that intercourse must have acted as a cause of the disease. All observations which do not bear strictly on that point are irrelevant, and in the case of an epidemic first appearing in a town or district, a succession of two cases is sometimes sufficient to furnish evidence, which, on the principle I have stated, is nearly irresistible."

Let us submit this question to the test of Dr. Alison, by quoting the opinions of some of the best authors.

Dr. Gordon says, "the disease seized such women only as were visited or delivered by a practitioner, or taken care of by a nurse who had previously attended patients affected with the disease. I had evident proofs that every person who had been with a patient in the puerperal fever became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere. It is a disagreeable

declaration for me to mention, that 'I myself was the means of carrying the infection to a great number of women.'

Dr. Gooch mentions the case of a physician who had several deaths in his practice from this disease in quick succession; when thinking he might have carried the contagion in his clothes, he changed them and had no more cases.

Dr. Ingleby, in the *Edinburgh Medical and Surgical Journal*, (vol. 49, p. 415,) observes, that Dr. Campbell thinks that, "unless the practitioner has been engaged in the dissection of the bodies of those who have fallen victims, the disease cannot be conveyed, by him from females labouring under it to others recently delivered." "But the fact of the extension of the disease in this manner from the living subject has been most satisfactorily shown by Mr. Robertson. I have repeatedly observed the same myself, and have submitted a number of cases in illustration. I have also adduced the strongest ground for believing that the effluvia derived from the body of a woman who died from puerperal fever were conveyed in this manner by two practitioners, and rapidly produced the same disease in two other females."

Drs. Blundell, Abercrombie, Ramsbotham, and many others, assert that the contagion is often carried about by physicians and nurses, and many of them accuse themselves of having been the vehicles of its conveyance. When to this testimony is added the hundred fold more which is buried with the hapless victims, we have an amount of facts which it is obstinacy or willing blindness not to perceive the force of.

But, unfortunately, we have no need of crossing the Atlantic to search for evidence of this fearful truth.

In the *American Journal of Medical Sciences*, (Oct. 1842,) Dr. West stated some facts communicated to him by Dr. Jackson of Philadelphia, who, when practising in Northumberland County, had seven cases of delivery in rapid succession, in all of which puerperal fever supervened; of which five proved fatal. "Women," said he, "who had expected me to attend upon them, now becoming alarmed, removed out of my reach, and others sent for a physician residing several miles distant. These women, as well as those attended by midwives, all did well; nor did we hear of any deaths in child-bed within a radius of fifty miles, excepting two, and those I afterwards ascertained to have been caused by other diseases. I now began to be seriously alarmed on the score of contagion. Although I had used some personal precautions before, I now feared that they had not been sufficient."

Dr. Holmes, in the journal before alluded to, gives a series of cases occurring in the practice of a physician of a town at some distance from Boston. "There were seven cases, which happened between the 20th of March and the 8th of May; the first five proved fatal in from four to seven days after delivery; the other two recovered. These were the only cases attended by this physician during the above period; "and no other cases of a similar character with those of Dr. C. occurred in the practice of any of the physicians in the town or vicinity at the time."

In the first letter to Dr. Storer, (in the same article,) is found the following statement: "Between the 10th and 28th of February, 1830, "I attended six women in labour, all of whom did well, except the last, as also two who were confined March 1st and 5th. Mrs. E., confined Feb. 28th, sickened and died March 8th. The next day, the 9th, I inspected the body, and the night after attended a lady, who sickened and died on the 16th. The 10th, I attended another, Mrs. G., who sickened but recovered. March 16th, I went from Mrs. G.'s room to attend a Mrs. H., who sickened and died on the 21st. The 17th, I inspected Mrs. B. On the 19th, I went directly from Mrs. H.'s room to attend another lady, who also sickened and died on the 22nd. "Up to the 20th of this month I wore the same clothes. I now refused to attend any labour, and did not till April 21st, when having thoroughly cleaned myself, I resumed my practice, and had no more puerperal fever. These cases were not confined to a narrow space. The two nearest were half a mile from each other, and half that distance from my residence. There were no other cases in their immediate vicinity which came to my knowledge. Of the six cases you perceive only one recovered."

The successive communication of the disease by single physicians and nurses to their patients cannot always be thus satisfactorily traced; and hence the non-contagionists maintain that the doctrine of exclusive, if not of occasional contagion, must fall to the ground. Without again showing that this negative kind of evidence is of no weight against the more positive kind which has been now brought forward, or that we do not argue for the exclusive contagion of puerperal fever, we shall merely state for the

careful study of those who consider this argument as unanswerable, that it is quite as strong for small-pox and other contagious diseases, in which this communication cannot always be satisfactorily traced. Of a like unsatisfactory and negative character is such reasoning as the following: in the Philadelphia epidemic of 1842, the physician in whose practice most of the cases occurred, says that he cannot easily believe in the transmission of the disease from female to female by a contagion conveyed in the person or clothes of a physician, because having absented himself from the city after the occurrence of the disease in his practice for a week, and on returning, having entirely changed his clothes, his first case of labour was followed by a fatal attack of the fever.

It becomes an interesting question for the conscientious physician how the contagion is conveyed; as by the knowledge of this he is enabled to regulate the conditions of his intercourse with his patients. Is this disease transmitted by direct inoculation, by the atmosphere carried about by the physician, from patients before death? and is it not also conveyed from the examination of the bodies of the deceased? As to the channel by which the poison enters the system, it is probably both by the vascular and respiratory system in the majority of cases; by the uterine surface and by the lungs. Many have limited its introduction to the "wounded surface" of the uterus—but that the blood is frequently poisoned from its entrance by the lungs, is shown by the fact, that puerperal fever (though the term be misapplied,) may seize a woman before delivery; or that the poison may be introduced, and produce the symptoms of this disease, before the local action in the uterus has taken place. Mr. Ingleby says the attack may commence before delivery, and that he has seen a single case. We think we have seen another—a woman entered the Hospital de la Faculté, in the service of M. Paul Dubois, with all the symptoms of puerperal fever of the low type which then existed in the city; she was in the sixth month of her pregnancy, and had never carried a child to the full term; she had the "facies of puerperal fever," with the abdomen moderately swelled and painful, though not exquisitely so; weak pulse, and great prostration. On examination the os uteri was found dilated, and delivery imminent; a few hours after she was delivered of a child, dead, though not at all putrefied; the symptoms were aggravated after delivery, and death took place in a few hours. At the autopsy, the peritoneum presented evident traces of inflammation, its cavity containing the milky fluid, with membranous flocculi found in the form of the disease, we shall hereafter mention as the erysipelous; the uterine veins contained pus, and the placental insertion presented that softened, semi-putrid aspect, which the Germans have called "putrescentia uteri."

It probably principally affects the blood, though its first violence may often fall upon the nervous system. It is impossible to determine this point, which is fortunately of secondary importance.

It is, doubtless, very often propagated by direct inoculation from the living subject. Dr. Rigby observes, in his *System of Midwifery*, "the discharges from a patient under puerperal fever are in the highest degree contagious." "The puerperal abscesses are also contagious, and may be communicated to healthy lying-in women by washing with the same sponge; this fact has been repeatedly proved in the Vienna Hospital." He also observes, that they are also communicable to unpregnant women; and that frequently abscesses and diffuse inflammation attacked those who washed the bed-linen soiled by the discharges. Of the acrid nature of these, the following case from the *Dublin Journal of Medical Science*, (Nov., 1844,) will afford sufficient illustration.—It was here necessary, for the removal of the retained placenta, to pass each arm in succession into the uterine cavity, where they were tightly grasped by the neck. Two days after pustules appeared on the arms, one of them being surrounded by a livid hæm, the part of the arm near it becoming hard and swollen. The writer hence concludes that a morbid poison was generated epidemically in the blood, contact with which communicated the taint, and converted a common furuncle into a malignant pustule; and this altered condition of the blood was sufficient to produce all the phenomena of puerperal fever in the patient who was, however, free from the common symptoms of uterine inflammation.

Such being the malignant character of these discharges, that even those who have washed the linen soiled by them have communicated the disease to others, and that even the simple operation of passing a catheter has been the cause of propagating it, we should naturally expect to find the fluids after death of a peculiarly virulent nature. Many cases are on record of the most serious accidents from wounds received in post-mortem examination.

tions of puerperal fever; these cannot be accounted for on the supposition of a common poison acting on an enfeebled constitution, as several cases happen in the course of every epidemic; whereas such cases are comparatively rare in diseases infinitely more common, and in which the same enfeebled condition of the system is always a predisposing cause. From the comparatively greater frequency, then, of serious and even fatal symptoms in autopsies of this affection, we are compelled to recognize the existence of a most deadly and peculiar poison. This is so deadly that no wound is necessary, in order that the fatal effect may take place. Dr. Duncan, in the Transactions of the Medico-Chirurgical Society of Edinburgh, mentions an instance, where Dr. Cumming was present at the dissection of one who died of puerperal fever. "He took no share in the dissection, excepting introducing a fresh thread into the needle which was employed in sewing up the body, and was not aware of any abrasion, or of having punctured himself in the act of threading." In about a week after, he experienced an uneasy sensation in the middle finger of the left hand, where was discovered "an angry pimple." Death took place on the 11th day, with evident signs of a profound alteration of the blood.

With these startling facts before us, we are prepared for the long list of victims to the physician's ignorance and negligence; a list which we fear is yet to be swelled before the fearful truth we have endeavoured to bring forward shall be graven on the tablets of medical science.

From the mass of authority showing that the contagion of puerperal fever is liable to be conveyed by physicians to their patients, from their being present at, or taking part in the post-mortem examinations in this disease, we shall select enough, we trust, to convince the most sceptical.

In 1821, Dr. Campbell of Edinburgh, attended the autopsy of a married woman, who died of puerperal fever, after an early abortion; he removed the pelvic viscera and external parts, and carried the whole in his coat pocket to his class room; the next morning, having on the same clothes, he assisted, with some of his pupils, at an instrumental delivery at Bridewell; this woman was attacked with puerperal fever, and died (in the autumn). The same night, he went with another physician to deliver a woman, who also died; three others shared the same fate. Similar instances occurred in his practice in the summer of 1823; assisting at a dissection of this disease, (at the time having no cases of it,) from the poverty of the people, he could not properly wash his hands; without any farther attention, he went, when he returned home, to two cases of labour; both were seized with the disease, and died. Other physicians of the city, who had similar misfortunes, convinced of the contagious nature of the disease, gave up for a time the practice of midwifery.

Dr. Rigby, in the Library of Medicine, (vol. 6,) says that it is highly unsafe for one to attend a case of midwifery after a post-mortem of puerperal fever; and that it is impossible to remove the smell from the hands for several hours, even by frequently repeated washing.

In the *British and Foreign Medical Review*, (Jan. 1842,) the same author states in a review of Dr. Kiwisch's work, on the diseases of child-bed women, (who does not believe in the contagion of this disease,) that a young physician, contrary to advice, examined the body of a woman who had died from puerperal fever; there was at the time no epidemic; the case seemed to be purely sporadic; three other women were soon after delivered by him, all of whom died of this affection, the symptoms of which broke out soon after delivery. "The patients of his colleague did well, except one, where he assisted to remove some coagula from the uterus; she was attacked in the same manner as those whom he had attended, and died also; we trust that this fact alone will for ever silence such doubts, and stamp the well-merited epithet of 'criminal,' as above quoted, upon such attempts."

Dr. Gooch remarks: "A practitioner opened the body of a woman who had died of puerperal fever, and continued to wear the same clothes. A lady whom he delivered a few days afterwards was attacked with, and died of a similar disease; two more of his lying-in patients, in rapid succession, met with the same fate."

The following is a still more striking example: Dr. Merriman, as quoted by Dr. Holmes, "related an instance occurring in his own practice, which excites a reasonable suspicion that two lives were sacrificed to a still less dangerous experiment. He was at the examination of a case of puerperal fever, at two o'clock in the afternoon. He took care not to touch the body. At nine o'clock the same evening he attended a woman in labour; she was so

nearly delivered, that he had scarcely anything to do." She died in forty-eight hours; and the child also died of erysipelas two days afterwards.

In the *London Cyclopadia of Practical Medicine* are several cases of physicians who had examined the bodies of those affected with this disease, all of whose patients, in quick succession, fell victims to a similar affection.

In the *American Journal* (above quoted) it is stated that Dr. Warrington examined the body of a woman who died of this disease, and laded out the contents of the abdominal cavity with his hands. A few days after he was called upon to deliver three women in rapid succession. One was attacked with metritis, another with partial peritonitis; both were very sick, but recovered: in the third case, the patient was seized with peritonitis, and died on the fifth day. Two other women in his practice were also attacked with it, and both died. He would not be present at the autopsies of these cases for fear of communicating more readily the disease.

From the above series of facts, carefully collected and fairly stated, let every one reason for himself, and we think he will come to the same conclusions.

We think we may deduce the following propositions, from a careful examination:—

1. From the confinement of cases to the practice of single physicians and nurses in populous cities; from the fatal results attending post-mortem examinations; from its ravages in hospitals; that puerperal fever is contagious; that it may have other modes of propagation, in certain states of the atmosphere, and among strongly predisposed individuals; but that the fact of its conveyance by practitioners attests its contagiousness.

2. That it may be propagated by direct inoculation with the fluids of the living and the dead; by the effluvia arising from the bodies of the sick, inhaled in the very chamber of death, (as in the wards of an hospital,) or carried about by the person of the physician; by clothes, bedding, (fomites,) which have been in contact with a diseased individual.

3. That the order of propagation from the physician to the patient, and the regular succession of cases, show that the epidemics of puerperal fever are, in almost all cases, the effects and not the causes of the contagion.

4. The contagion acts according to the frequency of communication between the physician or nurse, (in whose practice are cases,) and lying in women, independently of insalubrity of place, wretchedness of patients, or the neighbourhood of dwellings—for although poverty and misery seem to predispose to it, communication is none the less fatal to the higher classes.

5. A case, to all appearance sporadic, may communicate the disease; a mild case may communicate a severe disease; and vice versa.

6. Immunity proves nothing against contagion; it may be the effect of an acquired or temporary inaptitude—it is equally inapplicable in all contagious diseases.

7. The rapidity of its propagation shows that it is contagious at the commencement; the fatal results of attending autopsies indicate this character after death.

8. That a physician should not make, or be present at an autopsy of this disease; or, if he does, should take proper measures to cleanse himself and dress, for the safety of his next patient—that if a case (or several cases) occur in his practice, he should consider himself, in the language of Dr. Holmes, "a private pestilence," and regulate his conduct accordingly—that persons who have washed, or have otherwise handled the clothes or bedding soiled by the discharges of this disease, should not approach, much less nurse a woman after delivery.

9. That when the disease is prevalent, a prompt removal from possible intercourse with a "pestilential" physician, and a strict attention to ventilation, cleanliness, quiet, proper food, &c., are the dictates of a reasonable fear.—*American Journal of the Medical Sciences.*

#### CASE OF RACEMIFEROUS HYDATIDS OF THE UTERUS.

The following case, reported in a recent No., of the *Philadelphia Medical Examiner*, by Dr. J. K. MITCHELL, presents some points of interest. We give it slightly abbreviated, but pretty nearly in the authors words:—

"On the 10th of July I was called to the case of Mrs. T—, who had returned a few days before from a visit to 'the South.

She complained of nausea, such as usually affects females during utero-gestation, but of greater intensity and prolongation. There was also an unusual degree of tenderness to the touch in the hypogastric region, extending to the right iliac fossa. A careful examination of the part by palpitation presented no unusual conformation, induration or tumefaction. The history of the case led to the supposition of the existence of a pregnancy of about a month's duration, as, previously to that period, her catamenial regularity and perfect health left no doubt of an unimpregnated condition.

"Aperient medicines, to regulate a costive state of the bowels, and antacids, for an acid condition of the stomach, with sinapians as revellents, relieved the more pressing symptoms. On the 18th of July my attention was called to a small tumour on the right side, about half way from the *symphysis pubis* to the anterior superior spinous process of the *os ilii*, in a right line. It was then about the size of a turkey's egg. The part was painful to the touch, ached when at rest, and suffered from attempts to alter the position in bed. There was a remarkable frequency (120) of the pulse, some heat of surface, and an anxious expression of countenance. The tongue was dry, but clean, the thirst moderate, the nausea, irrepressible; and slight mental incoherency, with restless movements of the head and hands, indicated much disturbance of the innervation.

"The application of leeches and a poultice relieved in some measure the local suffering, and an antispasmodic prescription abated the restlessness.

"On the 22nd of July, the *uterus* was perceptibly enlarged, occupying a position entirely to the right of the median line, and extending from the place of the tumour first discovered to the *symphysis pubis*.

"On the 28th, it was found that the rapid increase in the size of the *uterus* had obliterated the exterior vestiges of the lesser tumour, and that the former occupied the whole of the right hypogastric region, and rising above the umbilicus, extended a little way to the left of the *linea alba*.

"Irritation, and probably pressure suddenly produced, interfered with the power of micturition, and a catheter was used to withdraw the urine, of which the quantity was scanty, and the quality offensive.

"The *uterus* had by this time acquired such a size as to fill nearly the whole abdominal cavity on the right side, while it extended about two inches to the left of the *linea alba*, without any obliquity in the position of the *os tincae*, to explain the presence of the body of the *uterus* on the right side above.

"The history of the case, the short period of time since the cessation of the *meneses*, the singular tumour on the right side, and the preternatural rapidity of the development of the *uterus*, rendered the *diagnosis* obscure; but on the whole, we were disposed to believe that a droopy of the right ovary had extended to the *uterus*, or that there was a rapid production of a mole in *utero*. The absence of any *fremitus* on percussion, and the escape of a little unmixed blood, misled as to hydatids; and the rapidity of development, and failure to excite motion, left no doubt as to the absence of a *fetus*.

"On the 7th of August contractions of the *uterus*, with the usual pains, announced expulsive efforts, and in the course of the night an immense body of hydatids were expelled. There were many thousands of these vesicles attached to each other, or to a common membrane, so as to appear like bunches of grapes. They varied in size from almost imperceptible globules to the dimensions of large grapes. A few had acquired the volume of a pigeon's egg, while one or two were as large as a hen's egg. They were transparent, uniform, and without nucleoli or apparent organs, and might be properly termed *racemose acephalocysts*.

"Hæmorrhage and after pains, as in ordinary cases of labour, followed the expulsion of the hydatids, without causing any abatement of the abdominal tenderness or frequency of pulse. On the following day signs of puerperal peritonitis became obvious.

"On the 9th the case ended in death, and in thirty two hours thereafter an autopsy took place.

"On opening the cavity of the peritoneum it was found to contain about ten ounces of turbid serum, mixed with pus, of which latter a less diluted portion was found in the pelvic cavity. The right ovary was completely disorganized, nothing having been left of it but the exterior membrane, which was found ruptured, and appeared to have been filled with pus, of which a part still remained. The left ovary was enlarged and softened. It presented, when cut into, a very beautiful, perfectly developed, *corpus luteum*.

"The *uterus* was about the size of that organ as it is usually

found a day or two after delivery. The interior presented a rough surface at the fundus, as if their had been an attachment of the membrane or of some of the hydatids to it, and that part was partially covered with coagulated blood. The cervix was of an unusually dark hue, but not softer than usual.

"This case is interesting for several reasons—

"1st. Because it gave no signification of its character by the discharge, from time to time, of single vesicles, or by intermittent gushes of water, produced by their accidental rupture, an event not unusual in such cases.

"2nd. Because it was obviously a consequence of impregnation; a blighted ovum having given origin to the disease, as evinced by the presence of the membranes, to which the vesicles were attached, and by the perfect development of a *corpus luteum*.

"3rd. Because of the very rapid development, first of an ovary, then of the *uterus*.

"4th. Because of the severe constitutional disturbance, which, as proved by the history of other cases, marks the presence of hydatids *in utero*, and is not commonly found either in uterine dropsy or pregnancy.

"5th. Because there remained no traces of a *fœtus*, and no vestiges of an ovum, except the transparent membrane to which the vesicles were attached; the most careful examination of which could not, *per se*, have given evidence of an ovarian origin."

## CHEMISTRY, MATERIA MEDICA AND PHARMACY.

### ON THE BEST MEANS OF DISGUIISING THE TASTE OF NAUSEOUS MEDICINES.

By Wm. Acton, Esq.,

Surgeon to the Islington Dispensary, and formerly Externe to the Venereal Hospital of Paris.

As I am in the daily habit of prescribing those peculiarly nauseous substances *copaiba* and *cubeba*, my attention has been constantly directed to render these medicines as palatable as possible, without in the least interfering with their efficacy; and in doing so I have tried most of the plans recommended by different practitioners. In the belief that my experience might interest the society, I have been requested to write a short paper embodying my views on the subject, as they are applicable to a large number of nauseous or bulky substances; and with this view I venture to call the attention of the meeting, first, to a few of the old-fashioned methods of prescribing these remedies.

An amusing collection of looches, electuaries, and mixtures might be made from the old dispensatories. Fashionable physicians of the last century appear to have thought of only one way of disguising the taste or odour of nauseous medicines, by prescribing largely aromatic water, essential oils, honey or syrups. Need I say this plan has now been given up, or only followed by the remains of the gold-headed cane school, who still seem to adhere to the motto,

"Omne tulit punctum, qui miscuit utile dulci."

The Young England school of pharmacy began their improvements by introducing certain *culinary innovations*, among others stands prominently forward the

COPAIBA CUSTARD,

which we are told should be made in the following manner:—

R Vitelli ovi no. j. Bals. copaib. 3iv.

Aq. flor. aurant. 3ijj.

Syr. tolu. 3ss.

Aque distil. 3ij.

Ess. limon. gtt. iij.

It is to be regretted that this *Æsculapian Ude* has not furnished posterity with his name; were he alive, however, I fear his former patients would recommend him to confine his practice to the servants' hall, as his *extremets* are not adapted to the present fashionable style of cookery.

Other *pharmaceutical artistes* have turned their attention to concentrate the powers of nauseous medicines in extracts and essential oils, thinking thereby to do away with bulk and flavour, but they soon found that when they destroy the flavour, they are obliged to increase the quantity. In illustration I beg to give the prescription of a physician, brought to me a few weeks ago by a patient who had been under his care for four months:—

R. Ext. copaibæ resinos, 3ij. Ext. cubebæ, 3j.  
 Ol. essent. cubebæ, 3ij. Pulv. glycyrrhizæ, gr. xij.  
 Mucilag. q. suf. M. ft. mass. et in pil xxxvj. divid.  
 Sumat. iv. ter die.

Twelve pills a day!! Why, surely a statute should be raised to the martyr who thus supports the pill trade! Stuticians would tell you that this individual took 84 a week, 336 a month, or 1344 during the four months, and, as the poor fellow told me with a sigh, all to no purpose. When he related his tale, I was disposed to ask him, as Mr. Adolphus, the barrister, did a witness (who came forward on a trial to speak of the efficacy of large numbers of Morrison's pills,) how he managed to swallow them: was it by the aid of a shovel, or a coal scuttle? for without such aid he (Mr. Adolphus) was unable to conceive it possible to bolt these "monster" doses; but, perhaps, this is the new plan of giving physic to the "million," and not adapted for private practice.

But to be serious; these means are now seldom resorted to, and modern surgeons in private practice find it only necessary to resort to some expedients for bulky or nauseous solids, and one of two others for liquids. The best plan of giving solids is by means of

#### WAFER-PAPER.

This paper, according to Dr. Ure, is made in the following manner:—"A certain quantity of fine flour is to be diffused through pure water, and so mixed as to leave no clotty particles. The pap is not allowed to ferment, but must be employed immediately it is mixed. For this purpose a tool is employed, consisting of two plates of iron, which come together like pincers, or a pair of tongs, leaving a small definite space betwixt them. These plates are first slightly heated, greased with butter, filled with the pap, closed, and then exposed to the heat of a charcoal fire. The iron plates being allowed to cool, on opening them the thin cake appears dry, solid, brittle, and about as thick as a playing card." We meet with it in small sheets, of a light colour, breaking easily when dry, but tenacious and moulding itself easily to the substance it covers when wet, increasing but slightly its bulk. When any powder is to be taken, it must be mixed with syrup or other tenacious substance to the consistence of a bolus, and the patient be desired to break off as much of the paper as may be necessary to envelope the substance, dip it (the paper) in water; lay it on a plate or clean surface, and then place the electuary in its centre, fold the corners carefully over it, and swallow it by drinking a little water. Some persons have suggested putting the powder on the paper, and folding it without wetting the powder. This I should not, however, recommend, or an explosive mixture might result, much to the disgust of the patient and to the injury of the method. Those who are unable to swallow pills can manage to bolt these boluses covered with wafer-paper; they slip down the throat easily, as would an oyster, and do not produce that convulsive action of the muscles of the larynx and pharynx which frequently attend the effort of swallowing pills. I would strongly recommend the use of the wafer-paper, as an envelope for scammony, when prescribed for children, a medicine so frequently producing nausea. It is equally applicable for taking the pulv. jalap comp., or any other substance prescribed in 3 or 3ss doses.

The chemist must take care not to make the electuary too soft, or the object would not be attained.

The best modern method of giving nauseous liquids is in the form of

#### CAPSULES.

Of these I find no end of varieties; but I fear the majority of the makers of such useful articles, have not a very clear idea of the objects sought to be attained. Need I say, that it is of the greatest importance to employ genuine copaiba? The next important point is to obtain a capsule of a certain definite size, so that we may know what dose the patient is taking, and which the surgeon is generally unable to do. Another circumstance to which the manufacturer gives but little attention, is the thickness of the capsule. I would recommend the chemist to reject all samples that are not an eighth of an inch thick. In many instances I have known the capsule burst in the effort of swallowing, or dissolve as soon as it is in the stomach. I have called the attention of the profession to the subject in my work on Venereal Diseases, and must refer those curious on the subject to p. 61. An improvement has lately been introduced by enclosing copaiba in membranes, thus obviating many of the objections to all gelatine capsules. I am told that these membranous capsules are in the hands of respectable parties, who make a point of filling them

with genuine copaiba. I would suggest, however, to the patentees to increase the size, and make them uniform, or the surgeon will return to the gelatine capsules, which, when properly manufactured, answer the purpose.

The chemist should, in the selection of his capsules, take particular care that no one of them leaks, or the odour of the oil will be rapidly communicated to the others, and our object in giving copaiba in this way frustrated. The patient should be told likewise to take his capsules after meals. By this means the gelatine will not immediately be acted on by the gastric juice, and those unpleasant adjuncts to copaiba, eructations, will not be experienced. Many persons will tell you they are unable to take pills, and feel convinced they will be unable to swallow capsules; recommend such sceptics to take about a dessert spoonful of water in their mouth, and then place the capsule on the tongue, when the whole will be swallowed without difficulty, whereas if the capsule be placed on the tongue and water be drunk, the patient will often swallow the water, but the capsule will remain and produce convulsive action of the pharynx. Given in this way, it is singular how soon the medicine will act and effect the purpose we have in view; and it is no less remarkable that the stomach becomes tolerant of the medicine—a patient has not that tell-tale face so often characteristic of one taking nauseous medicines. I shall not venture to describe the gilding of pills, or the introduction of fluids into the back part of the throat by means of glass tubes, but may refer to an excellent plan of covering pills and boluses with gelatine, as mentioned in a former number of the *Pharmaceutical Journal*. In this last way, however, the pills or boluses are not able to mould themselves to the form of the throat, and the plan is far inferior to the wafer-paper, which I hope to see more usually introduced than at present, when bulky or nauseous medicines are to be given.—*Pharm. Jour.*

#### PETRIFIED FOREST NEAR CAIRO.

The following particulars are from an account given by Dr. Buist, of Bombay, in explanation of some specimens of silicified wood presented by him to the Literary Society of St. Andrews—"The specimens consisted of about forty-five pieces of wood; trunks, roots, knots and branches, from three inches to three feet in length; some were exhibited sliced and transparent, showing the sap vessels and the medullary rays; some cut into bracelets and brooches. In explaining the peculiarities of these, Dr. Buist stated that few things were more remarkable—few less noticed, [considering how worthy it was of examination] than the petrified forest near Cairo. From the city you proceeded, by the Caliphs' Tombs, to the southeast. Passing for five miles through an arid valley, through which a river torrent appeared to have flowed, skirted on both sides by low, brown, rocky ridges, the traveller turns suddenly off to the right, and beyond the first range of sand hills, finds, spreading far as the eye can reach, a vast expanse of rolling hillocks, covered with prostrate trees. At first sight, these were exactly the aspect of rotten wood dug out from a Scottish or Irish peat-bog. The color and the amount of decay seem the same. They are lying in all positions and directions on the surface of the burning sand—some forty or fifty feet in length, and one or two feet in thickness; not continuous or entire, but in a line broken across, left in their places like sawn trunks. On touching them, instead of proving mouldering and decayed, they turn out to be hard and sharp as flints. They ring like cast-iron, strike fire with steel, and scratch glass. The sap-vessels and medullary rays—the very bark and marks of worms and insects, and even the spiral vessels, remain entire; the minutest fibres of the vegetable structure are discernible by the microscope. Here you have the carbon—the most indestructible matter known to us—entirely withdrawn, and substituted in its place a mass of silica—a matter insoluble by any ordinary agent, and at any common heat. Yet so tranquilly has the exchange been accomplished, that not one atom has been disturbed; the finest tissues remain entire—the most delicate arrangements uninterfered with. The limits of the petrified forest are unknown: it probably extends over an area of many hundreds, perhaps thousands of miles. It has never been described with any care, and, extraordinary as it is, has excited very little attention. The trees are scattered loosely and at intervals over the desert, all the way from Cairo to Suez, a distance of 86 miles. No theory of their silicification or their appearance where they are found, has ever been attempted. The late Dr. Malcolmson found fragments of the wood imbedded in the conglomerate which contains the Egyptian jaspers, and

threw it out as possible that they and the gravel of the Desert, consisting almost entirely of jaspers, might possibly be the result of abrasion or denudation. This throws the difficulty only one step further back; besides this, that the appearance of the forest is at variance with the theory. No agates or gravel appeared around: the trees seemed to have been petrified as they lay; they looked 'like a forest felled by mighty winds.' A further mystery was this: they lay on the surface of bare drift sand and gravel, and reposing on limestone rocks of the most recent tertiary formation—the texture and color of the imbedded oyster shells were as fresh and pure as if brought not six weeks from the sea."—*Athenaeum*, Jan. 1846, p. 130.

## CHEMICAL CHANGES PRODUCED BY THE ACTION OF THE SOLAR RAYS, OR ACTINO-CHEMISTRY.

By ROBERT HUNT.

At a meeting of the British Association at York, it was proposed by Sir John Herschel, that all those phenomena, which exhibit change of condition under the influence of the solar rays, should be distinguished as forming a peculiar province of chemistry, and be designated by the term Actino-chemistry; this was generally approved by the chemical section.

Accordingly, the sun's rays are divided into those producing light, those producing heat, and those producing an actinic influence.

Mr. Hunt, in his experiments, confirms a fact first pointed out by Sir John Herschel, that the rays of the sun facilitate precipitation.

A solution of manganate of potash having been made in the dark, was placed in two glasses and set aside. After having been kept in darkness for two hours, the solutions remained as clear as at first. One of the vessels with its contents was then removed into the sunshine, when the solution immediately became cloudy, and was very speedily decomposed, the precipitate falling heavily. By experiments with the spectrum, the author found that the precipitation was due almost entirely to the most refrangible rays.

A few grains of sulphate of the protoxide of iron were dissolved in rain water; if kept in perfect darkness, the solution remained clear for a long time; it became, however, eventually cloudy and colored from the formation of some peroxide of iron, even in tubes hermetically sealed. A few minutes' exposure to the sunshine is sufficient to produce this change, and the oxide formed, instead of floating in the liquid, and as in the former case rendering it opaque, falls speedily to the bottom.

Mr. Hunt made some experiments, [particularly one with a mixture of the bichromate of potash and the sulphate of copper,] in which precipitation appears retarded by solar agency, and he is inclined to think that it will eventually be proved that the electric energy of the different bodies in relation to each other, will greatly modify the results obtained in these experiments.

The action of the sun's rays appears also to affect the color of the precipitates. If a solution of bichromate of potash is exposed to sunshine, it acquires a property of precipitating several metals as chromates, differing many shades in color from the colors produced by a solution similarly prepared and kept in the dark. If the actinized solution (solution exposed to sunshine) be poured into a solution of nitrate of silver, the chromate of silver formed is of a much more beautiful color than that given by a solution which has not been exposed to the sun's rays. The same is true when the salts of mercury are used.

Solutions of sulphate of iron exposed to sunshine, yield a Prussian blue, with the ferrocyanide of potassium, of a far more beautiful color than that produced by a solution which has not been so exposed.

Among other curious actions that the sun's rays exert, is the one by which it prevents electro-metallic precipitation. Place in a test tube a strong solution of nitrate of silver; in another tube, closed at one end by a thin piece of bladder, place a solution of iodide of potassium; this is supported in the solution of nitrate of silver by being fixed in a cork, and a piece of platinum wire is carried from one solution into the other. An arrangement of this kind being kept in the dark, iodine is soon liberated in the inner tube, and a crystalline arrangement of metallic silver is formed around the platinum one, in the outer. Another being placed in the sunshine, iodine will be liberated, but no silver deposited.

Mr. Hunt has examined at length the action of the sun's rays upon some photographic preparations, (the salts of silver,) with many curious and interesting results, especially concerning the

chloride of silver. Five grains of pure chloride of silver were put into a long test tube full of distilled water, and placed in the sunshine to darken, the powder being frequently moved, so that every part might be acted upon by the sun's rays. It was found, even after an exposure of a few minutes, that the water contained chlorine; (it became opaque on the addition of nitrate of silver;) and this was gradually increased as the chloride darkened. The darkening was continued for several hours, after which the solution was filtered to free it from chloride of silver, and nitrate of silver added to the filtered liquid; the chloride of silver precipitated, when collected and dried, weighed 1.4 grains on one occasion, 1 grain on another, and 1.5 grains on a third trial. From several other experiments on the chloride of silver, the author is inclined to believe that the first action of the solar rays is to liberate one half of the chlorine, which, moisture being present, is very readily replaced by oxygen. By the continued action of the exciting cause, the other proportional of the combined gaseous element is in like manner set free and replaced, and we now have oxide of silver, which in a short time is decomposed under the so called actinic power of the solar rays, and hence we have eventually nearly pure metallic silver in a state of extremely fine division.—*Lon. and Ed. Phil. Mag.*, July, 1845, p. 25; and *October*, 1845, p. 216.—*In American Journal of Science and Arts*.

## FREEZING OF WATER BY THE AIR PUMP, WITHOUT THE AID OF SULPHURIC ACID OR ANY OTHER DESICCATING AGENT.

By J. LAWRENCE SMITH.

In attempting to freeze water under the air-pump, without the aid of a desiccating agent, the cooling of the water to the point of congelation is prevented by the heat received from the containing vessel. I have lately found that by obviating this difficulty, water may be readily frozen by its own evaporation.

It was first shown by Count Rumford, that water does not wet a sooted surface, but forms in globules, like quicksilver. Three drops of water were placed in a sooted watch-glass; the spheroidal globule lay on the soot, exposing a large surface for evaporation, at the same time that the water was insulated from any source of heat. Arranged in this manner and placed under an air-pump, two or three minutes were sufficient to freeze the water. The glass was sooted over an oil lamp with great care; the experiment fails if the globule of water touches the glass even by a small point.

In place of the sooted watch-glass, make a shallow cavity in the end of a large cork, and over a lamp, burn it, sooting it at the same time. By putting three drops of water into the cavity thus prepared, and subjecting it to the action of the air-pump under a pint receiver, the water froze solid in a minute and a half; and in two and three-fourths minutes, 20 grains of water congealed, though at 73° Fahr. when introduced. Under a receiver of three quarts capacity, 20 grains of water froze in four minutes. I could not succeed in freezing the same amount in the sooted watch-glass.

By placing corks, prepared as above, over a saucer of sulphuric acid, the same results are obtained more rapidly. I put half a drachm of water, at 65° Fahr., in each cavity, and exhausted the receiver till the mercurial gauge reached 4.10ths of an inch, which was effected in one minute. In a minute and a half, the water on one cork began to freeze, and in five minutes they were all frozen. An ounce of water, in a large flat cavity, froze in 3½ minutes.

A flat-bottom porcelain capsule was prepared for an experiment on a large scale, by sooting it in the following manner. After coating it with soot over a lamp, and allowing it to cool a little, a small quantity of oil of turpentine was carefully poured upon the edge and passed over the entire surface; the vessel was then warmed to drive off the redundant turpentine. The surface was again coated with soot, and again with turpentine, and this process was repeated a third time; finally, another coating of soot was added, when it was ready for use. Two ounces of water were placed in this capsule under a receiver, and the air-pump worked for one minute. After standing six minutes, the surface was frozen.

This experiment, as well as similar ones, was attended with violent ebullition on the part of the liquid, throwing the water against the sides of the receiver, which was owing to the rapid formation of vapor on the under surface of the liquid.—*American Journal of Science and Arts*.



THE

**British American Journal.**

MONTREAL, JULY 1, 1846.

**HYGIENIC MEASURES FOR THE CITY.**

*Salus populi, suprema lex*, is an ancient and a wise maxim. It lays at the foundation of all social happiness, and, by consequence, materially affects national prosperity. One of the most important concerns which could engage the serious attention of all civic corporations is the preservation of the health, as far as they have the means of doing it, of those whose interests have been entrusted to their keeping. A matter of this kind ought to be their chief care, their most anxious solicitude, and should be paramount to every other consideration. What signifies the embellishment of a city, so long as its environs, nay, even its very centre, abound with fertile sources of disease, which require but the warmth of a summer's sun for the production and the elimination of those miasmatic emanations which scatter death around? Beautiful, indeed, to the eye may such a city appear, but it is all external show; mark its mortality, and say whether the thousands spent in ornament would not have been much better employed in a complete and thorough system of drainage, ventilation, and cleanliness, the effects of which, though less visible, would be more lasting, and would ensure more certainly the happiness of the inhabitants, and their consequent prosperity, by the ablation of obvious causes of disease, or at least establishing a greater immunity from them.

In the way of drainage, ventilation, and general cleanliness, our civic authorities, since the incorporation of the city, have done much, and are therefore entitled to much praise; but much still requires to be done, and the sooner this is done the better. We are not alarmists. Far from it; but it would ill comport with our duty did we not express our apprehension, that the cholera, which appears again to have commenced its pestilential progress over the continent of Europe, may revisit us, and we know of no means more likely to moderate its desolating agency, than general hygienic measures. This city has already had a bitter experience of it in two former visitations, having been decimated in 1832; and it is well known, that in no districts of the city was the mortality from it greater than in the low, ill drained, ill ventilated parts, of which the St. Ann Suburbs then ranked pre-eminent. Should this scourge again appear among us, it requires not the spirit of prophecy to predict, that it will prevail chiefly in localities similarly circumstanced, and

these will be the St. Ann and St. Joseph Suburbs, the valleys along Buonaventure Street, behind the Champ de Mars, and behind St. Mary Street in the Quebec Suburbs. These different places are notoriously badly drained. They are even, in times of the existence of ordinary epidemics, from this very circumstance, the most unhealthy districts of the city, and furnish cases of sickness in greater abundance relatively than any other. How great, then, the necessity of immediately putting into execution such measures as will remove this obvious cause of disease, will, we think, abundantly appear from the few facts which we have given, and which will equally apply to every city in the Province. Unfounded reports of the existence of Asiatic cholera at Quebec, prevailed in this city a week or two ago. They have made us reflect seriously on the general preparation of the city for a third visitation, should such arrive. We are of those who consider a danger conquered that is boldly met; and in view of the importance, the extreme importance, of the end, we consider that no more fitting and appropriate subject could occupy the attention of our civic authorities, and we hope that an action, speedy and energetic, will be taken upon it.

*Progress of the Asiatic Cholera.*—We extract the following piece of intelligence, as a matter of considerable interest, from one of our journals, received about a fortnight ago:—

"We have already stated that the cholera had made its appearance in some of the provinces of Persia, carrying death into the principal towns. It has spread from Bokhara to Herat and Meshin, and has now taken the direction from the Caspian Sea to Teheran and Is-pahan. Late accounts from Odessa state that it had crossed the Russian territory and appeared suddenly at Tiflis, taking a northerly direction between the Caspian and the Black Seas. On the other side, the cholera broke out unexpectedly at Orenbourg, in the mines of the Ural mountains; it crossed the Volga, and set its foot in Europe, at Casan, only 2,000 kilometers from St Petersburg. If the accounts we have received are exact, it has taken a most irregular direction. It has advanced from west to north, and does not seem to have followed the banks of the rivers, as in 1828 and 1832. The cholera which devastated France in 1831 and 1832, had been raging in Persia for seven years, 1823 to 1830. It first appeared in 1823 at Orenbourg, and shed death around that town for five years. It re-appeared at Orenbourg in 1829, and one-tenth of the population fell a victim. It broke out at St Petersburg in July, 1831, and in France in the October of the same year."

More lately we perceive that it was advancing with rapid strides towards St Petersburg, from whence we doubt not it will penetrate into western Europe.



CORRESPONDENCE.

Letter II.

COLLEGE OF PHYSICIANS AND SURGEONS OF UPPER CANADA.

To the Editors of the British American Journal.

GENTLEMEN,—In the letter which you did me the honor to publish in the last number of your journal, headed "The present condition of the Profession of Medicine compared with that of the Law," I endeavoured to show, that the latter has been raised to the enviable rank it occupies at present in Upper Canada, by the unity of purpose displayed by its members in matters affecting the general good of their class; and this fact was made use of to support the opinion advanced by me in relation to the causes of the degraded state of our own profession. Dropping, for the present, the comparative part of the argument, I shall confine myself, on this occasion, to the consideration of the sins of omission and commission, justly chargeable against us individually and collectively; and if, in the pursuit of this inquiry, it shall afterwards appear that I have inflicted unmerited reproach upon any section of the profession, or any individual member of it, the injury shall be fully and promptly redressed. In my former communication I ventured to animadvert with some freedom upon the conduct of a small party of gentlemen here, with reference to the College Bill; since then, other facts connected with this subject have transpired, which would impart to their proceedings a character even more objectionable than the one already found for them, were it not for the charitable supposition that they might have acted upon erroneous information, though such a supposition, I am sorry to say, would rest upon nothing more than a bare possibility. These facts afford an example of a very common fault, if a fault, remarkably prevalent among the easy in circumstances—the successful portion of the profession; I mean the fault, or rather the *sin*, of selfishness—and in this particular instance, of a degree of selfishness so inordinate, so absorbing, and, at the same time, so blind, as to shut out from the mental vision of the actors, the light of reason altogether. It is necessary, as well for the general purpose of these letters as an act of common justice, that the "sayings and doings" of the gentlemen referred to should receive some further notice at my hands, and the statement which follows is intended to accomplish both these objects.

It is already known to your readers that the bill to incorporate a College of Physicians and Surgeons in Upper Canada, was presented in the House of Assembly in compliance with the prayer of a petition addressed to the Legislature and the Government. This petition was framed and transmitted to Montreal in March last, and printed copies of the draft were received by several members of the profession in this city about the middle of May. One or two of the provisions of this bill have been seized on by the party of gentlemen above mentioned, as a ground of complaint against certain members of the Medico-Chirurgical Society, and as charges are involved in that complaint of a character at once disgraceful and untrue, it becomes the duty of the accused to repel the calumny as promptly and effectively as they can. I shall endeavour, therefore, (as one of the supposed offenders) to perform that duty on the pre-

sent occasion, and in the manner following.—It is necessary to premise that the business of the society has been conducted during the last six months by a few individuals, never more than eight or ten in number. These are the men against whom the following charges have been brought:—1st, Of having caused their petition, the purport of which was kept secret, to be embodied in the College Bill; 2nd, of a secret design to erect the society into the first body of fellows for the new college; 3rd, of having caused the bill to be *smuggled* into the House of Assembly.

The last mentioned charge deserves no commentary; it is an idle waste of time to bestow even a passing word upon it. In reply to the first charge, I have to say that I was one of the committee appointed to draft the petition alluded to—that no part of that petition was inserted in the bill, nor was it at all adapted to such a purpose: that the burden of its prayer was simply this,—that an act similar to the act passed in the third year of the present reign to incorporate a College of Physicians and Surgeons in Upper Canada, but so modified as to obviate the objections raised by the College of Surgeons in London might be passed in the then present session of the Provincial Parliament. It is true that this petition was got up in the belief that the Hon. Solicitor General was prepared to bring forward some such measure if requested to do so by the society, or the profession generally. But it is equally true that the details of such a bill were never canvassed at any meeting of the society, nor has the charter of the old College, or the draft of the new bill ever been seen on the table or among the papers of that body. Although the foregoing declaration embraces a reply to the second charge, it shall have a separate and more pointed contradiction; and I now deny most emphatically that such a proposal was ever broached by the society at any of their meetings during the last six months, nor do I believe that an arrangement of this kind was ever contemplated by any individual among them. Whether the adoption of the Society as a nucleus for the new College was a judicious measure or not is a question that ought to be decided by the Profession at large. (I must avail myself of this opportunity to direct the attention of the Profession to one serious fault in the petition, I allude to the concession made in favour of the London College of Surgeons. As that concession has not been granted in the present bill, so it is to be hoped it will not be allowed in any future one.) Thus much for the *sayings* of these malcontents, now for a glance at their doings, as counter petitioners.

Verily this, (the counter petition), is one of the most remarkable productions that ever emanated from the pen of a jealous, disappointed, and indignant gentleman. What an extraordinary development of the organ of self esteem does every page bespeak—what superb displeasure in every line! That the four and thirty Tyro's who compose the Medico-Chirurgical Society, when no longer graced by his companionship, should dare to aspire to the dignity of fellowship of a Chartered College is an act of presumption quite beyond the reach of his conceptive faculties. Such is the spirit that breathes through the whole of this singular document. A few quotations from its voluminous pages will serve to amuse and, (I hope, also,) to instruct your readers.

The petitioners begin by telling us that the bill is "crude

and undigested in principle and detail, its provisions would be *inoperative and impracticable*, and *subversive of the vested rights of the best informed and most experienced practitioners* in Upper Canada, and ruinous to the interests of the public."

Remarks, "crude and undigested, inoperative and impracticable, and yet *subversive of the vested rights of the best informed, &c., &c., &c.*" Well done ye best informed, this is a *telling* paragraph, it must have cost you a world of labour, "mais c'est toujours le premier pas qui coute."

2. "That your petitioners observe that, whereas, the preamble of said bill professes chiefly to provide against an alleged defect in the laws now in force, for the prevention of persons practising without license, in its enactments it affects the fundamental principle upon which the constitution of the Medical Profession is at present based, and repeals an act establishing a *Medical Board* in Upper Canada which has been in operation during the last 28 years."

Remarks.—Repeals an act establishing a *Medical Board*, ah, "this is the unkindest cut of all." The chief petitioner and prime agitator is a member of the *Medical Board*, but not a member of the *Medico-Chirurgical Society*. It is possible that the patronage of the members of the *Medical Board* might cease with their existence as a board. True the establishment of the *College* would affect the fundamental principles upon which the constitution of the *Medical Profession* is at present based in Canada, but it would affect them most beneficially, it would give to that Profession a natural and solid foundation in exchange for an artificial and uncertain one.

3. "The bill did not emanate from the *Medical Board* and Profession at large, there is no overruling public necessity proved by the circumstance of its being brought forward by an individual member and not by the Government upon the petition of a few members of the *Medico-Chirurgical Society, &c.*"

Remarks.—Here we have the Profession at large introduced, and were it not that the whole tenor of their petition forbids the belief that they have been actuated by a sincere desire to promote the interests of the Profession at large, I should thank the petitioners for this show of liberality; but the animus of the author is too openly displayed, even in this paragraph, for that decoy to take.

4th. "That your petitioners are informed, and believe, that only eight medical practitioners, members of the *Toronto Medico-Chirurgical Society*, were present at the meeting of the Society when the resolution to petition for the *incorporation of the Society as a College* was adopted, some of whom, impressed with the propriety of well considering the details of a measure having the tendency of the bill referred to, have already in their capacity of members of the *Medical Board* petitioned your Hon. House, that no bill affecting the medical profession should be passed into a law without giving the board and profession &c. &c."

Remarks.—Here we have a bold and positive assertion directly at variance with the truth! the petitioners did not ask "for the incorporation of the Society as a College,"—what they did ask for was an act to incorporate the Profession under the title of the *College of*

Physicians and Surgeons. The resolution, upon which the Society's petition was based, was passed unanimously, but the stimulus of an *arriere pensée*, does sometimes make people act very foolishly. Still, I can almost venture to assert that there is not the least foundation for the statement contained in the latter part of this paragraph. Although the only fault that could be found in such a procedure, would be that of weakness, yet that fault, so excusable under ordinary circumstances, would be rightly regarded as a very grave one in this case, because the society were engaged in a laudable undertaking, in which the good of the whole profession was deeply concerned, and their efforts might have been seriously embarrassed by such conduct; but I repeat that I do not believe the statement; there is probably some miserable subterfuge at the bottom of it.

5th. "That ——— clauses give a power of supervision to the *minutest* portion of the profession."

Remarks. The bill would have given power of supervision to the society composed, at present, of 34 or 35 members, among whom, there are six or seven members of the *Medical Board*, many graduates of "the best colleges in the empire," besides members of royal colleges of surgeons, military men on full and half pay, and gentlemen of merit, educated wholly in this country.

6th. That in the opinion of your petitioners, these clauses affect the vested rights of all persons now licensed to practice physic, surgery, and midwifery, in U. C., not members of the *Medico-Chirurgical Society*, or who *may not desire to become members of the college by the said bill proposed to be incorporated*; and the said Bill, if passed into an Act, would not only deprive gentlemen who have been educated in the best colleges in the empire, and who are entitled to all due privileges of the chartered colleges of which they are members of their right, to practice within the Province, unless they shall comply with the By-laws, &c. &c.

Remarks. I cannot see the force of these objections: the object of an act of incorporation would be to place the profession under a different form of government, from that which now prevails, but does it follow that their privileges would be abridged thereby? The effect would, undoubtedly, be the very reverse of that.

It is admitted on all hands that the Bill in question has some faults, but only in one instance does it exhibit a manifest inconsistency; it is not the opposition, but the character of the opposition that I complain of. If these disclosures shall serve to impress upon the minds of the impartial and independent portion of the profession the necessity of union and organization among themselves, by which means alone they can hope even to obtain a satisfactory legal recognition of their rights, then the object the writer has had in view, while thus engaged, will be accomplished.

You are at liberty to give up my name, if requested to do so.

I am, gentlemen,

Yours, &c.

Toronto, 26th June, 1846.

M. D. &c.

[To be Continued.]

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending MAY 31, 1846.**

DISEASES	Male.	Female.	Total.	Under 1.	1 & under 3		3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards.
EPIDEMIC OR INFECTIOUS.....	Measles, .....	2	10	12	4	4	.	4	.	.	.	.	.	.	.
	Scarlatina, .....	1	.	1	.	.	.	1	.	.	.	.	.	.	.
	Hooping Cough, .....	.	4	4	1	3	.	.	.	.	.	.	.	1	.
	Fever, .....	16	17	33	15	14	2	1	.	.	.	.	.	.	.
	Small Pox, .....	1	.	1	.	.	.	.	.	1	.	.	.	.	.
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Apoplexy, .....	3	1	4	.	.	.	.	.	.	2	2	.	.	.
	Convulsions, .....	3	.	3	2	1	.	.	.	.	.	.	.	.	.
	Dentition, .....	.	3	3	2	1	.	.	.	.	.	.	.	.	.
	Hydrocephalus, .....	1	2	3	2	1	.	.	.	.	.	.	.	.	.
DISEASES OF THE THORACIC VISCERA,.....	Consumption, .....	19	20	39	9	7	.	3	1	2	3	9	2	3	.
	Croup, .....	4	1	5	2	1	2	.	.	.	.	.	.	.	.
DISEASES OF ABDOMINAL VISCERA,.....	Dropsy, .....	4	.	4	.	.	.	.	.	1	.	2	1	.	.
	Childbirth, .....	.	1	1	.	.	.	.	.	1	.	.	.	.	.
	Worms, .....	1	.	1	.	1	.	.	.	.	.	.	.	.	.
	Jaundice, .....	.	1	1	1	.	.	.	.	.	.	.	.	.	.
	Cholera, .....	1	.	1	.	.	1	.	.	.	1	.	.	.	.
	Inflammation, .....	9	9	18	10	4	.	.	.	.	1	2	.	.	.
	Abscess, .....	.	2	2	1	.	.	.	.	.	.	.	.	1	.
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Unknown, .....	1	1	2	.	.	.	.	.	.	1	.	1	.	.
	Still-born, .....	3	6	9	9	.	.	.	.	.	.	.	.	.	.
	Debility, .....	4	4	8	.	.	.	.	.	.	.	.	.	5	3
	Sudden Death, .....	3	3	6	.	.	.	.	.	1	2	1	2	.	.
	Purpura, .....	1	.	1	.	.	.	.	.	.	.	.	1	.	.
	Suicide, .....	1	.	1	.	.	.	.	.	.	1	.	.	.	.
	Total, .....	78	85	163	58	37	5	9	1	6	11	16	7	9	3

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR MAY, 1846.**

Date.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+53	+69	+54	+51.	29.74	29.74	29.70	29.73	N. W.	S. W.	N. E.	Fair	Fair	Fair
2,	" 47	" 56	" 48	" 51.5	29.69	29.71	29.74	29.71	N. E.	N.E. by N.	N. E.	Rain	Rain	Fair
3,	" 46	" 70	" 54	" 58.	29.90	29.90	29.94	29.91	N. E.	E.	E.	Fair	Fair	Fair
4,	" 52	" 72	" 56	" 57.	30.03	30.00	29.96	29.99	N. E.	N. W.	W.	Fair	Fair	Fair
5,	" 57	" 79	" 52	" 68.	29.90	29.92	29.95	29.92	W. by S.	W. by S.	W. by S.	Fair	Fair	Fair
6,	" 44	" 68	" 46	" 56.	30.07	30.06	30.05	30.06	E. N. E.	N. E.	N. E.	Fair	Fair	Fair
7,	" 45	" 71	" 53	" 58.	30.08	30.05	29.97	30.03	N. E.	N.E. by E.	N.E. by E.	Fair	Fair	Fair
8,	" 51	" 78	" 59	" 67.5	30.00	29.98	2.93	29.97	E.	S.	S.	Fair	Fair	Fair
9,	" 58	" 75	" 60	" 64.5	29.91	29.83	29.67	29.80	S.	S. by E.	S. by E.	Fair	Rain	Rain
10,	" 49	" 50	" 42	" 49.5	29.50	29.45	29.46	29.47	E. N. E.	E. N. E.	N. E.	Rain	Rain	Rain
11,	" 35	" 45	" 40	" 40.	29.50	29.50	29.48	29.46	N. by W.	W. N. W.	N. W. by W.	Rain	Rain	Fair
12,	" 44	" 61	" 42	" 52.5	29.53	29.65	29.90	29.69	N.W. by N.	N.W. by N.	N. by W.	Fair	Fair	Fair
13,	" 44	" 56	" 54	" 49.5	29.85	29.82	29.76	29.81	W. by N.	S. W.	S. W.	Fair	Rain	Rain
14,	" 55	" 78	" 65	" 66.5	29.84	29.80	29.75	29.80	W. N. W.	S. W.	S. W.	Rain	Rain	Fair
15,	" 63	" 66	" 56	" 65.5	29.78	29.90	30.14	29.94	S. by W.	S.	S.	Rain	Rain	Fair
16,	" 61	" 68	" 56	" 64.5	30.20	30.16	30.13	30.16	N. W.	N. W.	N. W.	Cloudy	Fair	Fair
17,	" 62	" 80	" 64	" 71.	30.14	30.05	29.93	30.04	N. W.	N. W.	N. W.	Fair	Fair	Fair
18,	" 52	" 66	" 37	" 49.	29.84	29.92	30.05	29.94	N. W.	N. N. W.	N. by W.	Rain	Fair	Fair
19,	" 33	" 57	" 43	" 45.	30.07	29.96	29.85	29.96	N. by W.	N. W.	N. W.	Fair	Fair	Fair
20,	" 44	" 60	" 36	" 52.	29.72	29.77	29.88	29.79	W. by N.	W. by N.	W.	Fair	Showr.	Fair
21,	" 37	" 64	" 48	" 50.5	30.04	30.06	30.10	30.07	N. W.	N. W.	W.	Fair	Fair	Fair
22,	" 47	" 74	" 55	" 60.5	30.23	30.17	30.08	30.16	W.	W.	W. by S.	Fair	Fair	Fair
23,	" 53	" 65	" 54	" 61.5	30.04	30.01	29.95	30.00	W. by S.	W. by S.	S.W. by W.	Fair	Showr.	Fair
24,	" 56	" 80	" 63	" 68.	30.03	30.00	29.96	30.00	S. W.	S. W.	S. W.	Fair	Fair	Fair
25,	" 66	" 87	" 69	" 76.5	29.92	29.86	29.84	29.87	S. W.	S. W.	W. S. W.	Cloudy	Fair	Rain
26,	" 64	" 88	" 61	" 76.	29.88	29.76	29.79	29.81	W. by N.	W.	W.	Fair	Fair	Fair
27,	" 63	" 68	" 58	" 65.5	29.73	29.68	29.62	29.68	S. W.	S. by E.	S. by E.	Rain	Rain	Rn&th
28,	" 61	" 84	" 65	" 72.5	29.66	29.75	29.70	29.70	S. S. W.	S. S. W.	S.	Fair	Fair	Rain
29,	" 62	" 81	" 63	" 71.5	29.65	29.66	29.74	29.68	S.	S.	F.	Fair	Fair	Rain
30,	" 64	" 70	" 61	" 67.	29.76	29.77	29.79	29.77	S.E. by E.	S. E. by S.	S. E. by S.	Fair	Rain	Rain
31,	" 61	" 81	" 65	" 71.	29.88	29.86	29.89	29.88	S. S. E.	S. S. E.	S.	Fair	Fair	Fair

**THERM.** } Max. Temp., +88° on the 26th.  
 } Min. " +33° " 19th.  
 Mean of the Month, +69°.9.

**BAROMETER,** } Maximum, 30.23 Inches on the 22d.  
 } Minimum, 29.45 " " 10th.  
 Mean of Month, 29.80 Inches.

# MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—May, 1946.

Latitude 43°. 39' 4. N. Longitude 79°. 21' 5. W. Elevation above Lake Ontario, 108 Feet.

DAY.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1,	29.314	29.386	29.326	29.3052	54.3°	55.5°	54.8°	54.09	.357	.336	.393	.360	.86	.77	.94	.88	N.E.	E.N.E.	Calm.	—	—	Overcast. Ring slowly fr. noon to midnight.
2,	29.348	29.384	29.452	29.4631	54.3	58.2	47.4	52.51	.333	.401	.299	.328	.81	.84	.92	.83	Calm.	S.S.W.	W. by N.	0.115	—	Ceased 7 p.m. Partly clear in the air.
3,	29.614	29.609	—	—	62.7	60.8	—	—	.330	.379	—	.328	.60	.73	—	.83	E.	S. by W.	—	—	—	Unclouded. Hazy round horizon. Fine.
4,	29.720	29.659	29.611	29.6632	53.3	65.1	50.1	54.92	.294	.337	.254	.297	.73	.56	.71	.68	S.W.	S. by W.	Calm.	—	—	Misty cl. Mfr. am. Aurora! 11 p.m. to 11 a.m.
5,	29.653	29.589	29.630	29.5788	51.6	64.8	52.1	55.77	.291	.432	.340	.352	.78	.72	.89	.80	Calm.	S.W.	Calm.	—	—	Gaily cl. Sud. sq. w'd at 10 h 5 a.m.
6,	29.594	29.624	29.630	29.6191	56.3	55.9	46.3	50.37	.281	.233	.310	.325	.63	.53	.69	.62	E.	E.	Calm.	—	—	Cloudy to 10 a.m. Clear and fine p.m.
7,	29.624	29.583	29.589	29.5933	53.4	55.7	49.4	52.97	.185	.330	.302	.293	.46	.76	.87	.74	E.N.E.	E. by N.	Calm.	—	—	Clear to 6 a.m. Rem. of day overcast.
8,	29.620	29.582	29.534	29.5545	55.4	60.0	56.5	57.61	.363	.343	.333	.378	.86	.86	.88	.82	N.N.E.	E. by N.	Calm.	—	—	Over 10 a.m. sun fr. 9 a.m. to n. Str' p'n from 4 p.m. to midnight.
9,	29.422	29.522	29.189	29.3089	55.3	56.0	58.7	51.99	.413	.428	.472	.361	.97	.97	.97	.87	E.N.E.	E.N.E.	N.E.	0.630	0.630	Raining moderately or slightly all day.
10,	29.172	29.231	—	—	57.1	54.1	—	—	.376	.281	—	.149	.83	.68	—	.57	N.N.W.	N.W. by W.	Calm.	—	—	Densely clouded all day.
11,	29.433	29.409	29.393	29.4076	36.6	46.4	40.4	41.70	.111	.157	.166	.149	.51	.53	.66	.57	N. by W.	N.W.	Calm.	—	—	Clear. Fine.
12,	29.400	29.407	29.451	29.4168	47.2	61.6	43.7	49.93	.191	.310	.226	.250	.59	.58	.80	.70	N.W.	S.E.	Calm.	—	—	Overly clear. Fine.
13,	29.353	29.264	29.371	29.3333	46.3	67.8	63.0	59.76	.275	.403	.378	.388	.88	.61	.67	.78	Calm.	S.W. by W.	S.W.	0.175	—	Overly clear. Hazy round hor. Fine.
14,	29.406	29.323	29.332	29.3544	58.3	64.5	61.6	62.33	.452	.411	.392	.439	.94	.70	.73	.80	Calm.	S.W. by S.	S.W.	—	—	Shower. Misty clouded. Clds electrical.
15,	29.383	29.680	28.744	29.6631	51.1	59.8	49.4	52.49	.350	.464	.294	.340	.95	.92	.85	.86	N.W.	S.S.W.	Calm.	1.900	—	Mod. r'n fr. 1 a.m. to 8 a.m. Par. cl. pm.
16,	29.825	29.794	29.805	29.7538	49.4	60.8	49.3	56.36	.315	.407	.315	.374	.91	.78	.91	.84	Calm.	S.	Calm.	—	—	Mostly overcast to 6 p.m. Rem. clear.
17,	29.813	29.735	—	—	62.3	66.3	—	—	.482	.503	—	—	.88	.80	—	.58	Calm.	Calm.	—	—	—	Quite clear. Very fine.
18,	29.602	29.742	29.518	29.7511	54.1	53.4	41.2	47.29	.349	.178	.142	.191	.85	.44	.55	.58	N.N.W.	S.S.W.	Calm.	not ap.	—	Very sl. p'n to 3 a.m. Cld to n. Rem. of day cl. Aur. p'n in N. 11 pm and midn.
19,	29.853	29.687	29.556	29.6703	42.5	55.1	38.7	46.13	.171	.262	.201	.210	.64	.62	.86	.68	N.N.W.	S.S.W.	N. by W.	—	—	Mostly clear. Hazy round hor. Fine.
20,	29.491	29.401	29.524	29.5002	48.9	66.5	51.4	54.23	.217	.200	.209	.210	.63	.32	.56	.53	W. by N.	N.W.	Calm.	—	—	Mostly clear. Hazy round hor. Fine.
21,	29.762	29.789	29.768	29.7782	47.8	51.8	38.2	42.99	.158	.226	.194	.198	.54	.59	.85	.73	E. by N.	S.E. by S.	Calm.	—	—	Cloudy. Clear spaces. R'n from 9 p.m.
22,	29.844	29.757	29.655	29.7223	47.6	56.5	51.6	52.00	.224	.214	.223	.227	.69	.47	.59	.68	Calm.	E. by S.	N.E.	0.350	—	Cloudy. Clear spaces. R'n from 9 p.m.
23,	29.553	29.561	29.644	29.5866	54.4	68.4	58.4	59.45	.376	.484	.405	.429	.90	.72	.85	.86	Calm.	W.N.W.	Calm.	—	—	Th. & p'n to 4 a.m. Rem. cl'd.
24,	29.701	29.626	—	—	64.2	55.0	—	—	.494	.372	—	—	.85	.88	—	.93	S.S.W.	S.	—	—	—	Cloudy. Th. & p'n most of aft.
25,	29.645	29.616	29.578	29.6013	65.2	70.4	63.7	66.35	.562	.661	.560	.570	.92	.92	.98	.93	Calm.	Calm.	S.W.	0.140	—	Th. & p'n to 3 a.m. R'n most of aft.
26,	29.554	29.439	29.344	29.4197	66.0	73.8	61.7	67.22	.580	.660	.497	.558	.93	.81	.92	.89	Calm.	Calm.	Calm.	not ap.	—	Th. & p'n to 3 a.m. R'n most of aft.
27,	29.282	29.284	29.306	29.2830	72.2	76.6	62.2	68.08	.625	.503	.472	.500	.81	.57	.87	.76	N.N.W.	N.W. by W.	Calm.	—	—	Th. & p'n to 3 a.m. Day cl'y. Cir. sp.
28,	29.291	29.225	29.275	29.2657	63.9	69.0	59.6	63.54	.482	.536	.441	.470	.84	.77	.88	.83	Calm.	Calm.	Calm.	—	—	Mostly clear. Clouds dispersed. Fair.
29,	29.325	29.271	29.240	29.2682	62.9	70.0	61.6	64.77	.450	.514	.414	.440	.80	.72	.77	.79	Calm.	E. by S.	Calm.	—	—	Cloudy. Clear spaces. Th. 10 & 11 p.m.
30,	29.213	29.195	29.309	29.2932	58.8	72.5	65.0	65.05	.457	.625	.522	.534	.94	.81	.87	.88	Calm.	Calm.	Calm.	0.115	—	Th. & p'n to 3 a.m. R'n from 9 p.m.
31,	29.482	29.482	—	—	71.7	74.3	—	—	.606	.617	—	—	.80	.75	—	.77	Calm.	S.E.	—	—	—	Auroral light in N. 10 to 11 p.m. Cloudy.
Mean	29.5200	29.4924	29.5013	29.5067	54.00	62.16	52.92	55.77	.341	.387	.336	.353	.79	.68	.81	.77	* Brisk and squally.				4.375	* First th. sl. of the season at Toronto.

Highest Barometry, ..	29.862 at 8 a.m., on 19th.	Proportion of Wind from each Quarter--	N.W., ..	113 } Total.	Year.	Mean.	Max.	Min.	Range.	No. Days.	Inches.	
Lowest do., ..	29.172 at 9 a.m., on 10th.		S.W., ..									Winds, 211
Highest Temperature, ..	79 = 7 on 27th, p.m.,		S.E., ..									Calms, 3
Lowest do., ..	33 = 1 on 22d, a.m.,		N.E., ..									Calms, 21
Mean Daily Range, ..	15 = .97		N.E., ..									Obscr., 624
Extreme Daily Range, ..	35 = .2 from 20th p.m., to 21st a.m.,	Proportion of Calm, ..	..	..	1846	65.77	79.7	33.1	46.6	10	4.375	

# THE BRITISH AMERICAN JOURNAL

OF

## MEDICAL AND PHYSICAL SCIENCE.

Vol. I.]

MONTREAL, AUGUST, 1845.

[No. 4

### METEOROLOGICAL OBSERVATIONS.

To the Editors of the British American Journal.

GENTLEMEN,—In continuation of the meteorological observations transmitted to you for publication on previous occasions, I send you herewith a series of general results of the quantity of snow fallen during the six winters specified in the tables, compiled by myself from registers kept by Wm. Belin, Esq., M.D., Long Point, about four miles from town. I send you, also, a table indicative of the mean temperature at Fort Colonge, on the Ottawa River, C. E.

I remain, yours very truly,

J. S. McCORD.

Table of the Quantity of Snow fallen, in inches, on the Island of Montreal, compiled from Registers kept by William Belin, Esq., M.D., at Long Point, near Montreal, by J. S. McCord.

Winter of 1830-31.				Winter of 1831-32.				Winter of 1832-33.			
Month	Day	Inch.	Tot.	Month	Day	Inch	Tot.	Mon.	Day	Inch	Tot.
Nov..	5-26	2.80	3.10	Nov..	22-23	1.75	2.80	Nov..	5-6	1.20	1.20
		.30			27-28	2.80			13-14	.40	
Dec...	9	8.70	26.50	Dec...	4-5	3.50	4.65	Dec...	22-23	1.00	7.80
	15-16	.30			9	.10			24-25	2.70	
	18-19	3.20	26.50		11-12	.75	2.10		26	.50	15.60
	20	5.30			13	1.00			30	2.00	
	27-28	6.10	26.50		15	.10	2.10		1	1.00	15.50
	28-29	.80			16	.75			4-5	.50	
	30-31	2.10	26.50		17	.80	2.10		6	.60	14.45
Jan'y.	3-4	.50			19	.75			8	2.00	
	5	.40	6.90		20-21	4.20	27.45		17	7.30	21.30
	11	2.00			24	6.20			18-19	1.40	
	18	1.70	6.90		26-27	1.50	21.30		27	2.80	14.45
	22	.90			28-29	6.80			2	.10	
	23-34	.80	6.90		29	1.00	21.30		10	.70	15.50
	26-27	.60			31-1	1.10			11-12	.20	
Feb'y.	3-4	13.50	23.30	Jan'y.	31-1	1.10	21.30		13-14	2.10	7.15
	11	.50			2-3	.80			15-17	10.50	
	12	.30	23.30		5-6	5.10	21.30		17-18	.60	14.45
	19	1.80			9	2.50			27-28	.90	
	22	.20	23.30		25	4.10	21.30		30	1.00	15.50
	23	7.00			30	7.20			6-7	3.20	
March	7	1.00	23.30	Feb'y.	2	4.50	21.30	Feb'y.	9-10	1.70	14.45
	9	.90			6-7	1.00			12-13	3.30	
	13	1.00	23.30		9-10	2.00	21.30		22	3.50	14.45
	19	8.20			12-13	2.10			27	2.75	
	27-28	.90	23.30		14-15	1.90	21.30		1-2	2.00	7.15
April..	7	.10			17-18	5.28			5-6	.55	
	8	.20	23.30		19	3.30	21.30		8	.70	14.45
	10-11	1.30			20-21	.60			12	2.30	
May..	9-10	.50	23.30		22-23	3.60	21.30		15	1.60	7.15
					25-26	.35					
			23.30		28-29	1.25					
					29	1.25	21.35				21.35
			23.30	March	4-5	3.30					
					5-6	6.00	21.35				21.35
			23.30		17-18	9.00					
					20-21	1.80	21.35				21.35
			23.30		26	1.25					
				April..	4	.50	21.35				21.35
					16-17	6.50					
Total in the year			73.90	Total in the year			107.60	Total in the year			60.50

Winter of 1833-34				Winter of 1834-35.				Winter of 1835-36.				
Mon.	Day.	Inch	Tot.	Mon.	Day.	Inch	Tot.	Mon.	Day.	Inch	Tot.	
Oct..	23-29	.40	.60	Oct..	26	1.00	1.60	Oct..	31	.10	.10	
	31	.20			27-8-9	.60			Nov	6-7		.10
Nov	17-18	1.80	3.35	Nov	19-20	.20	2.95		11-12	.75	11.95	
	22	1.50			22-3-4	2.35			23-4-5	6.60		
	29	.05	21.90		24-5-6	.40	2.95		28	4.50	13.60	
Dec..	9-10	8.00		Dec..	1-2-31	.50		Dec..	1	.50		
	22	1.00	21.90		6-7	.50	27.70		4-5	6.35	18.20	
	24	10.00			8	.20			9	.80		
	29	2.40	21.90		11	3.10	21.80		14	1.70	19.35	
	30-31	.50			13	.50			19-20	.85		
Jan'y	2	4.00	11.80		15	16.25	11.85	Jan'y	24-25	.40	29.30	
	11-12	2.00			18-9-20	2.55			29-30	2.90		
	19	.05	11.80		22-3-4	3.65	21.80		1	.30	13.50	
	20	.50			30-31	1.75			4	1.00		
	26	4.25	3.40	Jan'y	21	.00	11.85		6	2.30	18.20	
	28	1.00			16	.25			11	.50		
Feb'y	14-15	.60	3.40		20-1-2	8.60	21.80		18	4.20	19.35	
	25	2.00			22-31	1.00			21-22	3.60		
	26-27	.50	3.40	Feb'y	29-1	2.50	21.80		25-26	3.65	14.40	
	28	.30			1-2	.25			28	.25		
Mar.	1-2	2.40	9.95		7-8	5.00	19.05	Feb'y	29-31	2.50	8.45	
	6-7	1.75			11-12	3.25			8	.90		
	16-17	1.50	9.95		15-16	3.00	19.05		10-13	.50	13.50	
	20	.50			17-18	1.90			13	1.30		
	25-26	1.50	9.95		20-21	2.00	19.05		25	6.00	18.20	
	27-28	.30			22-23	4.00			27-8-9	2.25		
	29	2.00	9.95	Mar.	2	.25	21.80		28-29	0.25	14.40	
					7-8-9	10.20			10	2.00		
			9.95		16-17	3.50	19.05	Mar.	13-14	5.80	8.45	
					19	3.35			22-23	.85		
			9.95		21	2.00	19.05		23	.50	8.45	
					22-23	4.00						
			9.95		20	1.20	19.05	April				14.40
					22	.50						
			9.95		24	.85	19.05	May				8.45
					26	1.00						
			9.95				19.05					
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## ON THE ANALYSIS OF THE TUSCARORA SOUR SPRING, NEAR BRANDTFORD, C. W.

To the Editors of the British American Journal.

I have this morning received your journal, (Vol. ii. No. 2,) in which you have been kind enough to publish my rough notes on the Tuscarora Spring, and in which you state, that M. De Rottermund has announced the presence of antimony in the same spring water.

This, if true, would be a most astonishing discovery, for I cannot remember that this metal has ever been noticed in any spring. Rose and Berzelius certainly do not mention it, nor do I think there is any notice of it in the treatises of Daubeny, Bischoff and Osann. I was so struck with the announcement, that I instantly made an experiment with some of the waters in my possession.

A current of sulphuretted hydrogen was passed through four ounces of the water for a quarter of an hour: a considerable milkiness was produced, arising from the decomposition of the sulphuretted hydrogen by the sesquioxide of iron, which I have shown to exist in the water; the opacity or milkiness is produced by precipitating sulphur. Not a trace of any orange coloured precipitate could be observed.

As a proof of the delicacy of the test by sulphuretted hydrogen, I took a quantity of tartar emetic, less than half a grain, (the oxide of antimony must therefore have been less than one-fourth of a grain), this was dissolved in four ounces of water, a little sulphuric acid added, and the solution treated with sulphuretted hydrogen. *A dense orange coloured precipitate was immediately formed.*

I have no hesitation in saying that there is no antimony in the water that I have examined, and although I hear there are several springs differing considerably in their properties, I very much doubt whether that metal will be found in any one of them.

Yours very truly,

HENRY CROFT.

King's College, Toronto, June 12, 1846.

[Professor Croft will excuse the non-appearance of his letter in the previous number. It arose in consequence of the original department of that number having been set up before its reception.]

## POISONED CONFECTIONERY.

BY DR. VON IFFLAND.

Several years since, I invited the attention of the educated portion of the Province, to the flagrant impositions so frequently practised upon the credulous, by the proprietors, agents, and vendors of Patent, but more generally and properly called, *Quack Medicines*: to many of which, were then, as now, ascribed curative properties to every disease and accident, incidental to

suffering humanity, but, which results shewed, were fraught in their administration, with the most serious and dangerous consequences.

These expositions, although submitted in the cause of reason and science, and strengthened, as well by the purest and most beneficent considerations, as by the justice and candour of those possessing public confidence, were deemed too bold and intrusive by *the interested* to escape the keenest reproaches, malevolence and personal abuse. It cannot, therefore, but be with some apprehension, that I approach a subject, whose importance most sensibly interests the whole human family, while it also involves the speculative gains of an industrious class of citizens, but who, too often, in pampering the luxurious palates and tables of customers, become the cause (sometimes innocent) of much serious evil, from the various metallic poisons in their preparations of confectionery.

Having had occasion to visit Montreal sometime since, my attention was directed to the variegated and attractive colors of numerous specimens of confectionery, tastefully displayed not only in splendid shops, but also exhibited for sale by smaller retailers in the public markets; but sweets always seductive to the child and youthful branch of the community, are rendered more particularly so, from their beauty of color and fantastic shapes, and never fail to incite cravings, which the indulgent parent, not aware of their pernicious properties, too readily gratifies. From these considerations, the demand naturally keeps pace with the cupidity of the manufacturers, who, unscrupulous of the means employed, seldom feels anxiety or apprehension for consequences.

Conscious then of honestly obeying a strong impulse of public duty, I had written thus far; but, with a view of ascertaining, whether an application to a matter of so much importance, might not already have been brought to view by others, whose position and circumstances offered more favorable opportunities of investigation, I searched numerous works of authority and popular periodicals, and I am gratified to discover the publication of Dr. W. O'Shaughnessy, of such distinguished talent, that I cannot better meet the intentions with which I set out, than by submitting extracts from that gentleman's article on Poisoned Confectionery, and although it appeared fourteen years since, may not probably be generally known to the junior members of the profession.

He has evidently taken a deep interest in the subject, devoted to it much time and labor, and pursued the inquiry with all the calmness and caution which its importance required, and I am fully convinced, that the facts he has established, afford irresistible evidence of the deleterious properties of several preparations of confectionery.

Mr. Chevallier, in a recent article in the *Journal de Chimie*, tome vi. p. 608, commences by observing that at several times he had related in the *Journal de Chimie*, various accidents produced by the consumption of sugar confectionery, colored by mineral poisons—of these he particularizes the *schweinfurt green*, a compound of arsenious acid (arsenic) and copper, the *chromate of lead*, and the *sulphuret of mercury*.—Lastly; he enumerates *Gamboge*, a drastic purgative, and consequently an active irritant poison. Despite of the notification of this dangerous practice, made in nearly all the journals, literary, political, and medical, this mode of coloring was persevered in, till at length the Council of Health was consulted on the subject. This body lost no time in investigating it as it deserved, and the result was, an ordinance of police for the suppression of the nuisance.—The following document, which led to the ordinance, is well worth attention:—

*Report addressed by Mr. Andral to the Prefect of Police, on the dangers which may result from the use of colored sugar confectionery.*

"M. le Prefect, you have instructed the Council of Health to report to you, on the danger which may result from the consumption of colored confectionery, and on the measures necessary to be adopted to prevent the manufacture and sale of any such pernicious articles. The delegates of the Council have the honor to submit to you the following propositions:—

"1. It will be important to specify in the ordinance, what are the coloring substances which should be prohibited. These are, in the first place, all those derived from the mineral kingdom, except the oxides of iron, ferruginous lakes, or Prussian blue, all of which may be safely employed. Of vegetable substances *gamboge* should be severely proscribed, as being a drastic cathartic, which even in minute doses, necessarily occasions violent intestinal irritation. *Litmus* should be equally prohibited, as well on account of its being occasionally incorporated with putrified urine,—as that some manufacturers mix it with common *arsenic* and the peroxide of mercury.

#### Observation.

"The most diversified colors may be obtained by the confectioners from totally harmless compounds. Thus from the lakes of cochineal and carmine, they can prepare all the reds; the lakes of logwood will afford them the violet; the lakes of dyer's broom (*genista tinctoria*) will give the yellow, the lakes of Persian grain (*polygonum Persicaria*), with Prussian blue, forms a more beautiful green than any mineral can produce; finally, by the mixture of these harmless colors all the intermediate tints and shades will be obtained.

"2. The papers used for wrapping up sugar confectionery should also be strictly attended to, since they are colored with the same poisonous materials, and children will invariably suck or eat these papers, from which it is evident the most fatal accidents may occur. A member of the Council of Health, a short time since, snatched a colored paper of this description from an infant's mouth, and by analysis obtained from it both Arsenic and Copper.

"3. The delegates of the Council are of opinion that to ensure the observance of the ordinance, you should determine M. le Prefect, that a committee be appointed to visit the workshops of the manufactories of this species of confectionery: all the poisoned articles should be seized and

their vendors fined. Lastly the delegates of the Council recommend as a measure of great utility, that on the day following the seizure, the names of the confectioners should be published in all the journals and placarded over the walls of the city.

In conclusion, the delegates of the Council believe that an ordinance, founded on the principles thus pointed out, will prove of essential service, by suppressing a practice so pernicious to the public health."

The immediate result of this pointed and satisfactory report was the issuing of an ordinance from the prefecture of police, dated the 10th of December 1830, and signed by the Comte Treilhard, in which the practice is denounced in the most energetic terms, the poisonous ingredients specified, the harmless enumerated, and in addition to the proposals of M. Andral, orders were given that no confectionery should be sold, unless wrapped up in paper, stamped with the name and address of the confectioner. Further by this edict, the vendors are held responsible for all accidents occasioned by the confectionery or liqueurs sold in their establishments.

"Pursuant to these resolutions, the visits were made, and several poisoned specimens were destroyed. Generally speaking, the confectioners gladly banished from their laboratories the pernicious materials, and availed themselves of the harmless substitutes recommended in the report. Lastly, M. Chevallier describes the mode in which the sulphuret of mercury (vermillion), the chromate of lead, and the arsenite of copper (*schweinfurt green*), may be detected by chemical analysis.

"The preceding abstract, sanctioned by the name of Mr. Chevallier, and of that illustrious pathologist M. Andral, is amply sufficient to entitle me to the attention of the public, while I describe the extent to which the practice of using poisonous colors is carried in London, and thence disseminated over the United Kingdom, and its foreign colonies and possessions.

"On the subsequent day to that on which I perused the article just alluded to, I purchased, in company with my friend Dr. Green, at several shops, different specimens of colored confectionery, and of colorless articles, wrapped in stained paper. Of the colored articles, the greater number (class 1) were sold expressly for eating, some (class 2) cast into small figures of cards, &c., were apparently rather intended for ornament, but were sold without restriction, and lastly, some (class 3) were expressly designed for ornament alone. Of the first class, I examined about thirty different kinds, and found the reds tinted as follows:—

#### Ten specimens of Red Comfits, &c.

- 1 Minium, or red oxide of lead.
- 2 Red sulphuret of mercury (vermillion).
- 1 Mixture of both the former.
- 2 Of a yellowish or orange tint, chromate of lead, and a vegetable lake of lime.
- 2 Cochineal, with a trace of vermillion.
- 2 Vegetable lakes of alumina and lime.

#### 10

"It is here seen, that of the ten specimens of comfits sold for eating expressly, six contained mineral poison; all these specimens, with one exception, were only colored externally.

"Of the yellows, class 1, seven specimens of different forms and tints. Four *Gamboge*, colored externally; one Colored throughout, a vegetable lake of lime; one Colored throughout, oxide of lead, and traces of antimony, or Naples yellow. Six of the seven consequently contained deleterious substances.

"Of the greens, class 1, several specimens, all were colored by Prussian blue and a vegetable yellow lake of alumina, mixed with the sulphate of lime, except one specimen of which I had only two comfits, and which gave me a mixture of copper and lime.



"The blues, class 1, were chiefly Prussian blue, and contained no hurtful compound.

In the second class, or those apparently intended for ornament, but sold without restriction, and formed in all sorts of fantastic shapes, of eight forms of yellow, three contained chromate of lead, one of Naples yellow; one massicot or yellow lead, and three vegetable lakes of alumina and lime. All these were colored throughout, and contained moreover sugar, and the sulphate of lime or Plaster of Paris.

"The reds in this class were of six specimens, three vegetable lakes of alumina or lime, one chromate of lead, with a red vegetable lake, two red lead.

"The greens and blues were composed as I described in class 1.

"In the third class, the composition was precisely the same, and the proportion little different from class 2.

"The papers were next examined, especially those used for enveloping the sugar drops called "Kisses"—without exception the reds were colored by the red sulphuret of mercury, the yellows, by the chromate of lead, and many of the greens by verdigris, or the carbonate of copper.

"With respect to the quantities of the poisonous substances, I had not leisure to submit the various products to the tedious process of delicate weighing; moreover, it appears to be altogether unnecessary, as the mere presence of the minutest possible quantity of any such substance should not be allowed; I will merely remark that one concern in the city from which I have obtained the greatest number of poisonous specimens, employs eleven men daily in the preparation of these articles, furnishes immense quantities of them to country confectioners, supplies many of the minor shops in the metropolis, and, if I am rightly informed, exports to our foreign possessions to a considerable amount. Extent of manufacture always implies extent of sale, and in this case the ratio of the consumption of course equals both. I cannot, therefore, be accused of exaggeration, when I assert that millions of children are thus daily dosed with metallic and vegetable poisons, in minute quantities it is true, but in quantities dependent on their amount on the caprice of a workman or a machine, and sufficient in the minutest degree to exercise their peculiar insidious effects, if taken as a practice from day to day—neither are these effects chronic alone, for not long since an acute case of poisoning arising from the use of confectionery of this description occurred in the children of a highly respectable family in Southwark, and, on analysis, the comfits were found to contain minium or the red oxide of lead."

It would appear almost incredible, that England, whose legislation confers inestimable benefits on its subjects, and which sheds its radiance over the world, should, to this day, remain so far behind its continental neighbours, as to afford no protection against offences and abuses of the description now brought to public view. No subject can be of deeper or more vital importance, as that which is intimately connected with the general safety of the community; and none ought therefore more imperatively to call into action, the patriotic feelings of statesmen in every country—yet England and the United States are still the only nations in which a code of laws for the preservation of the public health, does not form a material part of the jurisprudence of the country—there are, it is true, in maritime towns, quarantine regulations to guard against the introduction of pestilential and contagious diseases from abroad—these laws include a few

provisos for the removal of any sources of infection that may exist, independently of those arising from shipping, but here they end. Both countries are alike destitute of a general medical police—and I fear much, that, notwithstanding the philanthropic exertions of Dr. O'Shaughnessy in bringing the subject of these articles before Her Majesty's government, both by submitting documents of the most irrefragable nature and authority—specimens of the poisoned substances and personal interviews with the Secretary for the Home Department, the evil has been left undisturbed, if not, without consideration, at least, as far as my information goes, without penal statute or municipal surveillance or restriction.

With regard to the right of England to export its manufactures to its colonies we can claim no interference save the exactions of certain imposts, but so far as those of a domestic character are concerned, the Provincial Legislature may exercise its control and authority, and by its enactments, render penal the manufacture and sale of such preparations of confectionery as are decidedly destructive and injurious to the healths of the inhabitants. It is therefore to be hoped, that during the next session of Parliament, the subject will engage the attention of government, and meet with that consideration from the Legislature, which its importance so justly demands.

Yamaska (near Sorel,)

15th June, 1846.

To the Editors of the British American Journal.

Mr. Editor,—Should you think the annexed case worthy of publicity, I shall feel obliged by your giving it insertion in your valuable Journal. It tends to illustrate with what scanty means an operation, generally considered difficult, can be performed in case of emergency.—I am, yours, &c.

GEORGE HOLMES, Surgeon.

Perth, C.W., April 21, 1846.

In 1840, I was visiting one of the back townships, about 30 miles from home, when I heard that a poor old man, residing a short distance from the house where I was stopping, was suffering from obstinate constipation, and was considered by his neighbours to be in a dying state. I volunteered my services, which were thankfully accepted. On my arrival at his house I found the patient, who was 63 years of age, in great suffering; the bowels had not been relieved for five days, and he was then vomiting stercoraceous matter, pulse 130, and occasional hiccup. On examination, I found a tumour, about the size of a small hen's egg, in the groin,\* in the situation generally occupied in femoral hernia; rather tender

\* The author does not state in which groin the tumour was situated.—Eds.

on pressure, but elastic, and increasing in size on the patient's coughing; the abdomen tense, and rather tender. He gave the following history of the case:—When about 30 years of age, he had a violent attack of whooping-cough, and, after a severe paroxysm, felt a swelling rise suddenly in his groin. This soon disappeared, but returned again at intervals. He consulted a medical man in the United States, where he was residing at the time, who gave him a truss, which he wore for eight years constantly, when he left it off, as the tumour did not return, and, to all appearance, he was cured. Indeed, it did not again show itself until five days previous to my seeing him, after a lapse of 25 years.

I bled him, used the hot bath, and applied the taxis, but all in vain. The symptoms being so unfavourable, and the case appearing so manifestly urgent, that I determined to lose no time, but to operate. To my extreme mortification, I discovered that I had left my pocket-case at home. What was to be done? There was no medical aid within 20 miles, and to send to my own house in the bad state of the roads would occupy too much time; indeed, the delay would have been fatal. I had in my pocket a sharp, long-bladed penknife, and with this I determined to hazard an operation—having first made a director out of a piece of hard wood. I commenced by making an incision through the skin over the tumour, and then a transverse one at its base, forming an inverted T. Having dissected back the flaps, and divided the cellular and fascial covering, and exposed the hernial sac, I found, on opening it, a large fold or knuckle of intestine of a dark brown colour, and of a very glazy appearance. The sac contained very little serum. The next step was to insert my director under the stricture which was very high up, and having guarded my penknife, by rolling some thread round it to make it resemble a hernia bistoury—passed it upon its wooden guide, and divided the stricture with very little difficulty, and returned the intestine. Very little blood was lost; the wound was closed and the patient put to bed. About an hour afterwards I administered an enema, which thoroughly emptied the bowels and having left the poor man an opiate, I consigned him to the care of an old midwife, hardly expecting a recovery. About a month afterwards I had the satisfaction to hear that he was quite convalescent; and I afterwards saw him—about two years after the operation—in very good health and quite free from any herniac swelling at all.

I may here remark, that one very singular feature in this case is, that it was a crural or femoral hernia occurring in the male. Of this there can be no doubt, as the tumour began at the edge of Poupart's ligament, and then proceeded downwards between the crural vessels and the os pubis, and the abdominal ring, and the parts above the

ligament, could be distinctly felt, perfectly uncovered by the hernia. This form is very rare in the male, although Lawrence, in his work on "Hernia," states his belief, that it is not so uncommon as many authors consider it. It is the first instance that has ever come under my observation, either in private or public practice, although during a period of nine years I was constantly in attendance in some of the largest hospitals both in England and Ireland, where operations for hernia were of frequent occurrence.

*Third Annual Report of the Managers of the State Lunatic Asylum, made to the Legislature, January 23, 1846. Albany, N. Y.*

Embodied in the report of the managers of the New York State Lunatic Asylum, at Utica, for the year 1845, we find the physician's report, by Dr. A. Brigham. The whole constitutes an interesting and useful document, and, as in previous pages of this journal we have devoted some space to remarks on the operations which have taken place during the same period, in a few of the chief asylums of the United States, we purpose now to lay before our readers the chief features of interest in the present one.

The Asylum was opened for the reception of patients in 1843, but having been found ill suited, in point of accommodation, to the numerous applications, by an act passed in May, 1844, the Legislature appropriated a further sum of \$60,000, for the erection of two additional wings of brick, each 240 feet by 38, and which will be completed during the present summer. The original grant, however, being still found inadequate to carry out the design, an additional appropriation of \$17,000 is required; and when finished, the building will afford ample accommodation for the reception of 600 patients.

From Dr. Brigham's report, we obtain the following general return of admissions and discharges:—

		Men.	Women.
Remaining in Asylum from preceding year,	260	131	129
Admitted during year 1845,.....	293	151	142
	553	282	271
Of this number discharged, Recovered,.....	135	76	59
Improved,.....	78	39	39
Unimproved, ...	34	14	20
Died,.....	21	10	11
	268	139	129
Remaining in Asylum Nov. 30, 1845,.....	285	143	142

During the three years, since the opening of the institution, we find that 844 patients have been admitted, viz.—431 males, and 413 females; who thus rank in number, in accordance with their *civil condition*, married, 409; single, 392; widows, 31; widowers, 12;

thus presenting an anomaly in the reception of more married than single. Most asylums in the State receive more single than they do of the former class.

A number of tables are comprised in the report, some of which are of little more than mere local importance. The third table, is one of interest, however, and serves to confirm the fact, that the age at which insanity begins to manifest itself, most chiefly, is between that of 20 and 30, a point confirmed by the statistics of other countries. Thus, of 844 patients, in 173 it developed itself between the ages of 20 and 25; and in 140, between 25 and 30; or in 313, in the third decennial period of life, forming a proportion of nearly one-third of the whole.

The report comprises a full detail of the general curative measures adopted in the Asylum. Among them Dr. B. "considers labour as among the most essential of the curative means," and, when practicable, agricultural employment is that kind which is generally selected, the labour of the patients being rendered serviceable in the support of the establishment. In the winter months, when out-door employment becomes injudicious or impossible, patients are employed in different mechanical occupations within doors, or in amusing themselves in some other manner. Schools are in successful operation, and appear to have been "especially beneficial to the demented or those approaching this condition. In such, the active state of the disease which originated the mental disturbance has passed, and left the brain and faculties of the mind in a torpid state. In these cases, medicine is of little use; but they may be improved, by arousing and calling into exercise, the dormant powers of the mind." There appears to be another class of patients, to whom mental exercise of this kind appears to have proved, also, peculiarly serviceable, viz., "the uneasy and nervous, and the restless and irritable." We think that this variety of moral treatment has been too generally overlooked in the management of the insane; and we cheerfully diffuse this general result, which appears to have flowed from this part of the treatment of such cases: "If we are not greatly deceived, our schools and other mental exercises have been very beneficial to our patients; contributing largely to their contentment and cheerfulness." "By these means, we have the satisfaction of seeing many patients, not only recover from their mental disorder, but that their minds have been improved, a fact of which they themselves are conscious, and for which they feel grateful. In repeated instances we have been informed by the relatives and neighbours of patients who have here recovered and gone home, of *their increased intelligence and marked improvement of mind.*"

Dr. Brigham concludes his report by offering some

general observations: 1st, on the prevention of insanity; 2nd, on the neglect of the study of insanity by physicians; 3rd, on the predisposing causes of insanity; 4th, on the immediate or exciting causes; 5th, on asylums for idiots; and we cannot better conclude our remarks on this able report, than by quoting the author's words on the last head enumerated.

#### ASYLUM FOR IDIOTS.

By the term *Idiot*, we mean to designate a person in whom the mental faculties have been wanting from birth, or have not been manifested at the usual period, owing to an original defect or to disease of the brain in very early life. The same persons are sometimes denominated *imbeciles*.

From each enumeration of the inhabitants of this State, we learn that the number of idiots is very great. By the census of

1825, there were	1421
1835, " "	1684
1845, " "	1610

We have already stated our opinion that some demented insane persons are classed with the idiots in the census; still we believe the actual number of the latter is very great.

What is their present condition? Where and how are they kept? We fear that full and correct answers to these questions would reveal a mass of wretchedness and misery wholly unexpected to the people of the State.

Some we know are in the county houses, while many are left to wander about, exposed to the inclemencies of the seasons, to want and suffering, and very frequently to the insults and gross abuse of the vicious. Not unfrequently some become mothers. Several affecting instances of this kind have come to our knowledge. One of the most abject and pitiable of this class, a white female, has had two children, one white and one black. Humanity, the preservation of public morals, and true economy, call for the better guardianship and protection of this unfortunate portion of the human race.

Can any thing be done for the improvement and welfare of this neglected portion of our fellow creatures? If so, we have no doubt the benevolent spirit of the age will soon require it to be done.

We are of opinion that very much may be done for their improvement and comfort; that many, instead of being a burden and expense to the community, may be so improved as to engage in useful employments and to support themselves; and also to participate in the enjoyment of society.

Idiots exhibit different degrees of intelligence. While some possess no more knowledge or capacity for acquiring it, than the brutes—others exhibit considerable intelligence or aptitude to acquire particular kinds of knowledge. They are capable of learning trades and to read, and of being taught music. Some are particularly interesting from the simplicity of their manners, quick observation and witty remarks, as we know from the history of those times, when it was common to have such at the courts of kings.

But they all need protection and guidance, and as they now exist in this State, are a very necessitous and altogether too much neglected class of persons.

As we have said, we believe many of them may be much improved and be rendered far more intelligent and comfortable, and capable of supporting themselves. This has been found to be the case in other countries where asylums and schools for idiots have been established.

Various have been the attempts of benevolent individuals for the improvement of idiots, but no thorough and systematic means have been adopted until within a few years. So early however as 1828, M. Ferrus, Inspector-General of

the Lunatic Asylum, of France, organized a school for idiots in Paris, and in 1830, M. Voisin, Physician to the Bicêtre Lunatic Hospital of Paris, and to whom the honor seems chiefly if not wholly due of directing attention to the various capacities of idiots with a view of improving them, published a work on the subject. Since then successful attempts have been made to cultivate their intellects and improve them. In France, Switzerland and Prussia, asylums and schools have been established for their benefit, and from recent accounts we learn that more good has resulted to these unfortunate beings than the most sanguine expected.

In Paris, at the school of M. Seguin, and at Abendberg in Switzerland, at Dr. Guggenbuhl's Institution for Cretins, and at Berlin, under the care of M. Saegert, many have been raised from the lowest and most wretched state of animal existence to comparative happiness. Their habits have been improved, propensities regulated and their affections awakened. A considerable number have learned to read, write, draw, play on musical instruments and to labor. The change in some is described as almost miraculous by gentlemen from England and the United States, who have visited these institutions.

Abundant proof of the vast improvement that has been effected in the condition of idiots, is furnished by a recent report of a committee appointed by the Academy of Sciences at Paris, to examine the *Memoir of M. Seguin, on his method of instructing young idiots and imbeciles*. This able report drawn up by M. Pariset, after mentioning the wretched condition of the idiotic, and the great difficulties to be encountered in efforts to instruct them, declares that M. Seguin has, for the most part, overcome these difficulties, "opened a new career to benevolent exertion, and given to hygiene, medicine, and moral philosophy, an example worthy to be followed."

Confident in the success of an experiment to improve this class of persons and to render their condition far more comfortable, we cannot but hope that it will soon be made so under the direction of the State of New York. We scarcely know of a subject more worthy of the attention of the patriot, philanthropist and Christian.

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*Elements of Physiology including Physiological Anatomy, for the use of the Medical Student, by WILLIAM B. CARPENTER, M.D. — Philadelphia: Lea and Blanchard.*

So rapid has been the progress of Physiology within the last few years, particularly in that department of the science to which the name of Physiological Anatomy has been given, that the student has hitherto not been able to obtain, in any one work, sufficient materials to lay even the foundation of his knowledge of this important branch of his profession; and yet the history of medicine does not present an era in which greater discoveries have been made in Physiology, or in which so much talent, industry, and energy have been called into operation for the elucidation of its mysteries.

In the work before us, this deficiency is supplied; it contains a clear and concise resumé of the present state of the science, without being too much condensed for the beginner.—With the works of Dr. Carpenter we have long been familiar, and for his talents we entertain the highest respect, yet we have often thought that in

his various treatises on Physiology, he would have been more successful as a teacher had he not been so brief in the manner of treating his subjects,—*he would have taught better had he considered his reader more ignorant*. The truth of this, has been frequently forced upon us, in reading his descriptions of various parts of Physiology, with the details of which we were at the time familiar, and we have asked ourselves, "could we have obtained a clear notion of this subject, if ignorant of it until we met with this description?" In illustration of this we need only refer to the chapter on "Cytogenesis," to some passages on the Blood, Digestion and Respiration, in his treatise on Human Physiology, and we feel satisfied, that a mere beginner would obtain any thing but a definite idea of what the author wished to convey. We can easily imagine, that one like Dr. Carpenter, who has made a branch of knowledge his particular study for several years, and whose writings have been either directly or indirectly connected with that subject, should, when compiling a manual for students, err, from too great anxiety to crowd into as small a space as possible a great mass of facts, forgetting that these facts must be accompanied by details to make them intelligible to minds to whose consideration they are for the first time presented.

In the present work we are glad to perceive a complete absence of the faults alluded to; each subject is treated fully and satisfactorily—and we have no hesitation in stating, that it is admirably adapted for the use of the student, who is about to commence the study of Physiology; and for the Practitioner who wishes to place himself *au courant* with the state of the science.

In the preface, the author informs us that henceforth he purposes devoting his talents and time to original investigation. We have no doubt his researches will tend much to the elucidation of the many questions still unsettled, a task for which he is well suited, not only on account of his freedom from prejudice, but from his possessing in so high a degree, strong reasoning powers and great candour.

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*Fevers, their Diagnosis, Pathology and Treatment, prepared and Edited, with large additions from the Essays on Fever in Tweedie's Library of Practical Medicine, by MEREDITH CLYMER, M. D. Philadelphia: Lea & Blanchard.*

The above work is a collection of the various articles on fever published many years ago in England, and furnished by Drs. Christison, Shafter, Burrows, Gregory and Locock. The original essays are deservedly held in high estimation, and their value is now greatly enhanced by the copious and judicious notes of the American Editor. We have noticed, that besides bringing

the information on each subject down to the present state of our knowledge, he has supplied many omissions in the text of the articles, and has, in this manner, presented before the profession, each subject in a more perfect state than could probably have been done by the respective authors themselves. He has also supplied an able original article on Typhoid Fever, which we strongly recommend to the perusal of those who have not yet made up their minds as to the true nature of this disease. Dr. Clymer adopts the views of most modern pathologists—that it is separate and distinct from typhus. He has supplied much valuable information on the subject of treatment.

As there are many of our readers who do not possess the "Library of Medicine," we strongly recommend them to purchase the above work, for it contains the most recent and valuable information on this important class of diseases.

## ANATOMY AND PHYSIOLOGY.

### ANALYSIS OF THE BLOOD,

BY M. DUMAS.

Fibrin is easily separated by whisking recently drawn blood, and the albumen is also readily separated by allowing the serum to coagulate. It is not so easy, however, to obtain the globules free from albumen and fibrin, and a method indicated by Berzelius, and improved by Muller, suggested to MM. Lecanu and Figuier a process for effecting this object. This method is founded on modifying the relations of the blood to the pores which exists in filtering paper. If blood, deprived of fibrin by whisking, and therefore liquid, is thrown on bibulous paper, the globules pass through the filter slowly, but almost completely. If, however, the blood before it is thrown on the filter is mixed with three or four times its volume of a saturated solution of sulphate of soda, it is so modified that all the globules remain on the filter, while the liquid in which they floated passes through, and thus the globules can be collected. But the application of this method is attended with some difficulties.

Thus, if blood has been defibrinated for some hours, on attempting to filter it after the addition of even an exaggerated quantity of sulphate of soda, it passes with difficulty, and the filtered liquid is always discoloured. It is therefore necessary to employ recently drawn blood; and after it has been defibrinated, and the albumen has coagulated, it is passed through a fine linen cloth into a solution of sulphate of soda, and is then thrown on the filter, a limped or slightly yellow fluid passes through, and all the globules remain on the filter. On washing the globules thus collected with a further quantity of solution of sulphate of soda, it soon happens, however, that the liquid passes through coloured, slightly at first, but ultimately of such a deep red colour as clearly to indicate a material alteration of the globules collected on the filter. It is, however, necessary, in order to obtain the globules in a state of purity, to wash them several times with a solution of sulphate of soda, as otherwise they retain a certain quantity of the serum of the blood—that is to say, of an albuminous liquid, whose presence masks their real characters.

After many fruitless attempts, M. Dumas has discovered a remarkable property of the globules of the blood whereby this difficulty may be obviated. So long as the globules remain in contact with air or with aerated water, while they are arterialized in a word, the solution in which they float passes the filter colourless, and leaves them behind; but when the globules assume the violet colour of venous blood, the filtered liquid becomes coloured. It is consequently necessary to maintain the globules in the arterial state during the entire process of filtration and washing; and this M. Dumas effects by immersing in the filter

a small tube through which a constant and rapid current of air is made to traverse the liquid; while a continuous stream of solution of sulphate of soda replaces the liquid as it filters away. It is however, essential to the success of the process that it shall be quickly performed; if the globules are suffered to collect in ever so thin a layer on the sides of the filter, those in contact with the paper are deprived of air and assume a violet colour, and the liquid then filters through coloured.

The globules, in fact, under those different circumstances behave, as it were, like living beings, capable of resisting the solvent action of the sulphate of soda so long as they retain their vitality, but yielding to its action when asphyxiated by want of air. Chemists, then, should endeavour to maintain their vitality—by agitating the liquid, keeping the liquid constantly aerated; and finally, by maintaining it at the temperature of the animal body. By means of these combined precautions, the globules may be obtained pure in a few hours, provided we do not attempt to prepare more than five or six grammes (3v. to 3ii.) at once.

The rapid alteration of the globules when deprived of the direct contact of atmospheric air; the extreme energy wherewith in a layer of globules those on the surface seize on the whole of the oxygen dissolved in the water, are circumstances highly calculated to attract the attention of physiologists. In discussions and calculations respecting respiration, the blood has always been considered as a homogeneous liquid placed in contact with air in the lungs, and undergoing changes more or less rapid. The serum of the blood is doubtless an homogeneous liquid, but the globules are so many vesicles floating in the serum, and endowed with a proper respiration, whose effects, confounded with those that result from the respiration of the serum, produce by their combination the general phenomenon of respiration. Putting aside for a moment the proper action of the serum on the air, it may be said that the respiration of one of the higher animals, of man in particular, has especially for its object to furnish oxygen to the globules of the blood, and to expel the products into which it is converted.

In attempting, then, to calculate the effects of respiration, the membranes forming the envelopes of the globules must be taken into account, for it is known how different pure and simple solution of gases is from the strange phenomena of endosmosis through membranes separating two reservoirs full of different gases, or of two liquids charged with different gases. Respiration, then, to be well understood, should be studied in these vesicles—i.e., the globules of the blood, the seat of the principal phenomena which it is intended to accomplish, and whose organization strangely complicates the law of physics. The mode of action of the blood globules on air, whether circumbient or in solution, and the conditions under which that action proceeds, naturally becomes consequently a matter of great interest.

The microscope and agitation with oxygen afford two equally certain methods of recognizing the integrity of the globules and the preservation of their fundamental property. When the globules are entire, the microscope indicates the fact; while they retain the power of being arterIALIZED, they redden on contact with oxygen. This property remains after the blood is taken from the animal and when it has been deprived of fibrin, of albumen, and of serum, it is therefore independent of fibrin, albumen, and serum, and the vital influence of the animal. Sulphate of soda does not destroy this property, but many of the other alkaline salts do. Common phosphate of soda exists in the blood as sulphate of soda does, and, like it, its saturated solution when added to blood does not prevent it assuming an arterial colour when agitated with oxygen. Thus, so far as this property at least is concerned, the blood may contain, without inconvenience, much larger quantities of sulphate and phosphate of soda than naturally exist in it.

Salts of organic acids, such as Rochelle salts, are in the same predicament, whence it is probably that lactate of soda may exist in considerable quantity in the blood without the property of the globules in question being interfered with. Experiments show that the case is quite different with sea salt, and with chloride of potassium. If recent whisked blood is saturated with sea salt, and then agitated with oxygen, it remains violet coloured. Sal ammoniac has the same effect.

Is there any relation between those facts and the influence attributed to the abuse of salted meat in predisposing to scurvy? Is the action of sal ammoniac on the blood connected with the poisonous effects of all the ammoniacal salts?

It is to be observed that salts which preserve to the blood the

power of becoming arterialized, at the same time preserve the integrity of the globules, and allow the serum to filter colourless. On the contrary, salts which destroy the property of becoming arterIALIZED, allow the serum to pass the filter discoloured. Those experiments render it probable that the colouring matter of the blood is especially fitted to assume the characteristic colour of arterial blood while it remains combined with the globules—a property which is lost or impaired when by the destruction or alteration of the globules the colouring matter becomes really dissolved. A careful comparison of specimens of blood treated with alkaline salts, capable of saturating it cold and agitated with oxygen, gives the following results: Salts containing complex organic acid, as the tartaric and citric, preserve the integrity of the globules better than salts of mineral acids. Salts of soda preserve the same property better than salts of potash and of ammonia.

An unexpected relation, then, seems to exist between the integrity of the globules, the arterial condition of the blood, the phenomena of respiration, and the nature and proportion of salts dissolved in the blood. The performance of a few experiments of this kind will produce the conviction that asphyxia may be excited in the midst of the air or of oxygen without any other change than the introduction of a salt which modifies the blood globules.

M. Dumas then indicated the importance of examining the properties of the blood globules in disease. It seems probable that their degree of tendency to alteration might be estimated by mixing blood, defibrinated or not, with graduated quantities of a suitable salt, such as sea-salt or sal ammoniac.

In order to effect the elementary analysis of the globules of the blood, M. Dumas first isolated them by means of sulphate of soda. He then, having thoroughly separated the serum, dried them *in vacuo* with concentrated sulphuric acid. Boiling alcohol or ether then render them insoluble in water, and by means of the latter menstruum the sulphate of soda with which they are mixed was then dissolved out. M. Dumas concludes from his analysis that the globules belong to the family of albuminoid compounds. They contain somewhat more carbon than casein or albumen do, which he attributes to the red globules containing a colouring matter more carbonized than they are themselves.—*Gaz. Med. de Paris.*

## ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 12.—DR. BABINGTON in the chair.

*On the relation between the constituents of the food and the systems of animals.*

By R. D. THOMSON, M.D.

Lecturer on Practical Chemistry in the University of Glasgow.  
(Communicated by Sir B. C. BRODIE, Bart.)

The first individual who showed that wholesome food should contain matters identical with animal substances, was Beccaria of Bologna who wrote an excellent paper on the subject in 1742. Dr. Prout has taught and extended this view for more than twenty years, and his opinions are now followed by all physiologists. That the systems of animals are capable of sustentation by a supply of fibrinous matter alone, is obvious from the history of the primitive inhabitants of the prairies of America; but it appears from experiments made on the nutrition of animals with pure fibrin, that an auxiliary in the production of animal heat is either indispensable or advantageous, since animals fed on fibrin alone have invariably declined in health—(Magendie.) That the amount of calorific, or heat-producing food, in contradistinction to nutritive food, properly so called, as it has been well defined by Liebig, is out of all proportion greater than that required to supply the waste of solid matter of the body is obvious from an experiment made by the author on a cow, in a state of rest, in which it was found that 15½ lbs. of food were taken into the circulation in one day. Of this, only 1½ lb. was nitrogenous or nutritive food, the rest being calorific and saline. From this experiment, frequently repeated with nearly the same results, the author concludes, that in such a condition of the system, the natural relation of the nutritive to the calorific constituents is nearly as 1 to 8½.

The author gives formulæ for calculating the amount of nutritive and calorific food, with a view to determine the laws of dieting. He gives tables from his own analyses of the amount of nutritive matter in about twenty different kinds of vegetables, (principally farinaceous food.) By these it is shown that oatmeal consists of 1 nutritive and 5 calorific matter, and barley 1 and 7—facts which explain the universal employment of these substances. From these tables it is also inferred, that as milk is the natural food of the infant mammalia, the constitution of their food should be formed on the same type, and that the use of arrow-root or starchy food, where the relation of the nutritive to the calorific matter is as 1 to 26, instead of being, as in milk, 1 to 2, is opposed to the principles attempted to be established by the author. He observes that, in nutritive tables, it is usual to give a column of equivalents—representing, for example, 100 parts of beans as equal in nutritive power to 1160 of starch; but according to the author's views, such a method is not founded on scientific principles. In a correct plan of dieting a proper equilibrium must be maintained between the wants of animal organism and the constitution of the food. The importance of this view is supported by the results of an extensive series of experiments, made by the author, with different kinds of food, upon cows. These results are highly interesting, and were given in a tabular form, but our limits will not allow us to detail them at length. The author concludes by observing that, when more condensed forms of vegetable are required, the object might be obtained by mixing certain portions of American flour with different kinds of meal, which could not otherwise be raised by fermentation—for example, by mixing equal parts of flour and oatmeal, flour and pease, or barley meal, excellent bread could be formed; and two-thirds of Indian corn, with one-third of flour, yielded an excellent loaf. Specimens of bread made with various mixtures of grain were exhibited.

Dr. Thomson, in answer to a question, stated that the quantity of water consumed by the animals in these experiments was truly enormous. The brown cow swallowed six gallons at a time. His observations on this point went to prove the correctness of these made by Sir B. Brodie, who had found that these large quantities of water had been disposed of in the colon; the stomach could not hold them; thereby proving that absorption of saline matters went on in the colon.

Dr. Snow said that he considered organic chemistry would have to be much further advanced than it is at present before it would be safe to follow it, in giving directions on diet, instead of being guided entirely by experience. It was true, that farinaceous food did not suit young infants especially in large quantity; so far, experience coincided with Dr. Thomson's theory; but if we were to argue from the chemical constitution of the food to be adopted after weaning, it would have to be a sort of diet that we had never known given to children; they could not digest beans, and the only alternative would be, an exclusively animal diet. But the fact was, that the chemical constitution of milk was no criterion of what should be the food afterwards; there was the smallest possible difference in the chemical constitution of the milk, which was the earliest food of all the mammiferous class; but no sooner was this left off, than they betook themselves to the most different kinds of nutriment, some living on grass, and others exclusively on flesh. This was in accordance with the circumstance, that there was a great resemblance in organization in the early period of the development of animals, and that they took in their specific characters as they grew up. Dr. Thomson had spoken of the albumen and other nitrogenous constituents of food as the nutritive part, and of the farina as the calorific portion. He had indeed admitted that the former might assist in the function of respiration, but he had not admitted that starch might assist in nourishing the fibrinous tissues. It happened, however, that many animals living exclusively on coarse ve-



getable food, of which the nitrogenized elements formed but a small part, were amongst the strongest and most active of the animal kingdom, and possessed a lower temperature than did in general, the carnivora, many of which were lazy and inactive in their habits. Taking all circumstances into consideration, the opinion of Dr. Prout must be the true one—that the saccharine elements of food, as he called them, combined with the nitrogenous principles of the bile, were thus capable of renewing the waste of the body, and that the vegetable feeders were not condemned to burn off the greater part of their food as fuel in the lungs.

Dr. Golding Bird, whilst he bore testimony to the industry and patient investigation which characterized the researches of Dr. Thomson, could not agree in the conclusions at which he had arrived with reference to the dietary of persons in health and disease. It should be recollected, that previous to the labours of Liebig, the proportion of carbon which existed in various articles of food was thought to offer a fair indication of their nutritive power. That distinguished philosopher, however, had shown the fallacy of such a view, and had proved, that with the exception simply of the fatty tissues, every structure in the body was supported, and its waste supplied, by the nitrogenized elements of food. Dr. Thomson's paper had the merit of satisfactorily showing that animals could not be well nourished on either nitrogenized or carbonized food by itself, but that there should be a certain proportion between the two, so that the richly-nitrogenized food might make up the waste of tissue, whilst the richly-carbonized would become a source of animal heat. He (Dr. Bird) did not believe that the composition of the food of the infant animal, or milk, gave us any sure indication, in our selection of nutriment for the adult; for milk, nearly identical in composition, afforded nourishment to the infant cat, sheep, and porpoise; whilst, in after life, how remarkably different was the food of these different animals. Admitting that the tables of Dr. Thomson were correct, it would seem that the most nutritious food for infants and invalids, next to milk, would be beans and peas. This could not be followed out practically. White bread, according to the tables, was below the beans and peas in nutritious power; but, trusting to the same authority, a portion of cheese added to it would theoretically raise it high in the scale of nutriment: yet who would carry out this view practically? He admitted that infants might be literally starved from eating arrow-root, in consequence of their supply of nitrogen being cut off; he yet believed that in these inquiries sometimes more than mere chemical principles must be taken into the account in our determination of the diet we shall select for our patients. The ease with which different kinds of food were digested, and the vital endowments of the stomach, must not be overlooked.

Dr. Babington observed that the last speaker had gone much too far in his criticism, as every one must be aware that animal food and some other kinds of condensed nitrogenous matter might not be suited to children, from their difficulty of digestion. He considered the paper a very valuable one, and deserving of the thanks of the society.

Although one of the speakers stated that there was not much novelty in the views brought before the society by Dr. Thomson, we confess, that to us and to all with whom we have conversed on the subject, many of the facts and deductions are quite original. The table, which exhibited an increase in the butter of the milk of the cow, in proportion to the augmentation of nitrogen in the food, is perfectly new, and apparently at variance with the theories of Liebig, who derives the butter from the starchy constituents of the food; but which Dr. Thomson reconciled, by considering the food in these cases to be so formed as to restore the proper equilibrium of the system of the animal. This view also leads to the novel suggestion, that by experiment we should determine the amount of matter removed from the system

under different circumstances of rest and exercise, and that a true plan of dieting should be founded on such knowledge, and should not be left to mere instinct. We believe, with Dr. Thomson, that on this consideration depend the true laws of dieting—a subject of so much the greater interest in an artificial state of society, where the food is too frequently concocted to minister to the palate instead of to the condition of the waste of the system. The relation which Dr. Thomson instituted between the food serving for nutrition and that for the mere production of animal heat was very striking, and we have certainly never seen the subject so treated before. The analysis of arrow-root, tapioca, and sago, employing them as food for children. The table, already alluded to, showed, contrary to the statement of one of the speakers, that arrow-root could not produce fat, and that such views are imaginary. The table containing the amount of albuminous matter in various kinds of vegetable food was highly important. The higher position occupied by Scottish oats and barley-meal over English flour was sufficiently striking, and explains the cause of the great fact of entire nations subsisting mainly upon these kinds of grain. We firmly concur in the concluding observation in Dr. Thomson's paper, that his remarks tend towards an extensive field of experiment and deduction, of a highly practical nature, and may assist in indicating the direction in which the physician should pursue his inquiries when studying the laws by which the animal system is to be retained in a state of health.—*Reporter of Lancet.*

## SURGERY.

### RADICAL CURE OF TWO LARGE UMBILICAL HERNIAE OF TWENTY YEARS STANDING.

By G. HEATON, M.D.

A lady, aged 54 years, had given birth to many children and become very corpulent, muscles loose and pendulous, in consequence of which she had suffered for 20 years from a large increasing omental and intestinal tumor, situated above and to the left side of the navel. The omental portion of the protrusion had resisted every effort at reduction by taxis and other measures, from time to time made use of. In truth, it had been considered, by the patient and friends, an irreducible rupture for twelve or fourteen years; causing great suffering, at frequent intervals, from colic pains, constipation of the bowels, flatulence, swelling, sinking at the pit of the stomach, soreness, &c. After ten days' perseverance with the usual treatment and manipulation, the whole hernial tumor was returned into the abdomen, leaving and opening through the abdominal parietes sufficient to admit three fingers. The subcutaneous operation for the radical cure was now performed, giving but little pain or uneasiness to the patient, and resulted in the most gratifying success. But four or five weeks were necessary to cure the patient of her troublesome and dangerous complaint, so rapid was her convalescence. She has since continued well; general health and spirits greatly improved.

A gentleman of about 55 years of age, very fat, weight over 300 pounds, has been troubled with an umbilical rupture for 20 years. The protrusion had assumed a double form, situated on either side of the navel; that on the left side was much larger, more prominent, soft, and elastic to the feel, than the one situated on the right side. The patient, before applying for treatment, had made use of a great variety of bandages, belts, trusses, &c., hoping to retain the protruding parts, but had utterly failed in all his attempts, and was now going about without any external support. The tumor of the left side of the navel had been constantly present, projecting freely, apparently without any hernial sac, and thought to be irreducible in part, for many years. Moderate and gentle pressure, even in the recumbent posture, made but little



impression for the first few days on the protrusion. It was not until one week of great perseverance in the usual preparatory treatment, that the hernia could be sufficiently reduced and retained within the belly, to admit of the operation for a radical cure, as in the above case. After subduing the constant tendency to protrude, existing in the parts concerned, situated on the right side of the navel, or median line, I operated for a radical cure, and was somewhat surprised to find a considerable escape of fluid from the slight puncture made in the integuments. Water is frequently found to exist in the hernial sac of an old scrotal hernia, but very seldom in an umbilical. As there were no indications of the presence of fluid on the left side of the navel, it is reasonable to believe that this must have existed for some time in a sacculated state. The operation and treatment which I find so uniformly successful in other forms of hernia, proved eminently so in this case, closing up the broken parts in a few days' time, and completing the cure in about three weeks. The patient, just before the commencement of his treatment, took a severe cold, which brought on an attack of spasmodic asthma, accompanied with cough, thereby preventing him from lying down in bed, day or night, for about two weeks. He felt no pain from the operation, and but slight pain at any time subsequently during the whole treatment and cure. He was also able to walk about his room from day to day, and go out back when necessary. What to me seemed not a little remarkable in the case, was that the protrusion on the left side of the navel, although seeming to be unwilling to yield by taxis and other means, and return into the abdominal cavity, showed no disposition to re-appear externally, after the first six or eight hours from the operation.—*Boston Medical and Surgical Journal*.

#### TREATMENT OF ANEURISM BY GALVANISM.

The following case of treatment of popliteal aneurism by galvanism has been just published by M. Petrequin, head surgeon of the Hotel Dieu of Lyons, who had read a paper on the same subject in October last before the Academy of Sciences: "A man, aged 70, presented himself for treatment of popliteal aneurism; and on the 22nd January, M. Petrequin commenced his mode of treatment in the following manner: The patient was laid on his right side, and a tourniquet was put on the thigh high up. Four very fine steel needles, fifty-six millimetres long, were introduced into the aneurismal tumour near to each other. Two of the needles were introduced on the inner side, taking care to avoid the trunk and branches of the saphena veins, and their direction was from above downwards; the two other needles were introduced on the outer side, also from above downwards in such a way as that the needles of opposite sides should cross each other within the tumour without touching each other. This done, the tourniquet was tightened on the femoral artery, merely to the extent of stopping the pulsation in the tumour and artery without affecting its size or tension; a pile made on the instant composed of twenty-one pairs of plates, ninety-three millimetres square, connected by bits of cloth steeped in a solution of common salt, was then applied by means of a couple of slender silver wires held in the naked fingers, and the electric current was soon in action; but as it was found very weak, the number of plates was increased, after three minutes, to thirty pairs, the action of which was continued for twenty-five minutes. A single needle only was touched with each pole of the battery at a time, but every two or three minutes the contact was changed to another, so that each needle received the current in succession, and of course passed in every direction, with the view of causing fibrous filaments in the tumour to interrupt the current of the blood through it, and so favour coagulation. Each new contact of the wires with the needles produced a smarting in the tumour, then contraction of the muscles of the calf, and a kind of shock in the sole of the foot. To remedy these unpleasant effects the needles were raised, and while the compression on the femoral artery continued to prevent pulsation in the tumour, the latter was enveloped with a bladder of ice; the compression was then taken off the vessel, and the ice continued for six hours, at which time the pulsation in the tumour was as before the proceeding had

been commenced. At noon, on the 23rd, twenty-four hours after the galvano-puncture, there was no longer any throbbing in the tumour; the patient got out of bed, and walked some steps, but continuing to feel a slight stiffness in the leg. The following days the tumour gradually diminished in size, and became more firm, the lateral depressions at the knee showed, the stiffness of the joint disappeared, the leg could be completely extended, the motion in walking became free, and there only remained a slight sensation of weight in the foot."

This case speaks much for the further trial of electricity for the cure of aneurism, more particularly when we reflect on the dangers of operation, and the apparent harmlessness of the battery. We consider it particularly useful in the infancy of the method, as pointing out to those who may hereafter try it, how very weak the current may be, to produce the desired effect.—*Revue Medicale*.

#### ON SYPHILITIC INFLAMMATION OF THE EYE.

BY A. JACOB, M.D., F.R.C.S.I.,

Professor of Anatomy and Physiology in the Royal College of Surgeons, and one of the Surgeons of the City of Dublin Hospital.

That inflammation of the eyeball is one of the forms of disease in which syphilis displays itself, is now generally admitted, notwithstanding the doubts of Mr. Hunter on the subject. It is generally called syphilitic iritis, because the inflammatory changes are more conspicuous in the iris; but the remarkable redness of the sclerotic, the great imperfection of sight from the very commencement, and the subsequent opacities of the membrane of the aqueous humour and crystalline lens, prove that all parts of the organ are engaged, and that therefore the practitioner should have his attention directed perhaps more to the retina than to other parts. Whether it is to be looked upon as an accidental inflammation, modified by a peculiar and specific state of the constitution produced by syphilis, or as one of the distinct forms in which the venereal disease displays itself, may perhaps admit of doubt; but that it is different from other forms of inflammation in its nature, symptoms, and consequences, can scarcely be questioned. The place it occupies in the order in which secondary symptoms appear has not been unequivocally determined, and it not very uncommonly occurs unaccompanied or preceded by any of them. Mr. Lawrence, in his work on Venereal Diseases of the Eye, says, that "although sometimes occurring alone, it is more commonly accompanied by other secondary symptoms, such as eruptions, ulceration of the throat and mouth, pains of the limbs, and swellings of the periosteum. It is seen in conjunction with papular, scaly, tubercular, and pustular eruptions. As it belongs to the earlier class of secondary syphilitic affections, it sometimes shows itself like the other symptoms of that class before the primary disorder is cured." Mr. Carmichael, in his Clinical Lectures on Venereal Diseases, published in this journal in 1840, says, that "though this formidable affection is not confined to the papular disease, yet for one instance we meet with in practice connected with the symptoms of the other forms, we at least find twenty connected with this." Mr. Mackenzie, in his work on Diseases of the Eye, observes, that "the local secondary symptoms with which he has most frequently found syphilitic iritis associated, have been pustular, papular, and scaly eruptions on the face and over the body, and next to these sore throat. The pustules on the face, which he has met with as attendants on syphilitic iritis, have frequently been large, hard, and seated so deeply in the skin as almost to deserve the name of tubercles. The scaly eruptions on the face have occasionally presented an approach to the areolar form of lepra. Over the body, again, where the eruption has generally been of a more acute character, the appearance has been that of numerous circular elevated spots of a brownish-red colour, about the size of a split pea, ending in a desquamation of successive thin pellicles of

cuticle. Mr. Hewson, in his excellent treatise on "Ophthalmia accompanying the secondary forms of Lues Venerea," makes the following observations on this subject:—

"It is only when lues venerea has advanced to its secondary stages, and more or less contaminated the system, that the eye is susceptible of this disease; an half-cured, indolent chancre or bubo may be present with it, but some degree of constitutional taint is necessary to its production.

"Some facts have led me to believe, that where the constitutional symptoms are most distinctly and strongly marked, and are attended with most general disturbance, in the same proportion will those attending the ophthalmia be violent and severe; and, on the other hand, where the former are few and feebly developed, so will the latter be slow and insidious in its progress, and mild in its symptoms. I have also pretty generally remarked that, in those cases in which no mercury has been used in the primary stages, or previous to the occurrence of the ophthalmia, this has appeared in its severest and most exasperated form; whereas, with those in which this remedy has to a certain extent been employed, the contrary has been observed. Thus, among the cases noted as having the ophthalmia in the former state, many have been nurses who were infected by suckling pocky children: to these the disease is generally communicated in a manner unexpected, and its nature not being known, is allowed to proceed to its secondary stages without the intervention of its proper remedy. Women, also, who have been disordered by their husbands, have been placed under similar circumstances, and similar results generally attend their cases. On the other hand, the patients with whom the ophthalmic symptoms have manifested most mildness and indolence, who are by far the majority, have been those whose previous treatment has been conducted on what is called the alternative plan—by pills, and without confinement, I must, however, acknowledge, that the worst and most unfortunate cases have been preceded by an irregular, inefficient, and protracted use of mercury.

"It would lead me out of my limits, and would be scarcely possible to examine and enter on a minute description of all the varieties and forms of constitutional symptoms, which in different cases will be found to accompany the ophthalmia, for this would embrace a history nearly of the whole venereal disease; it will, however, be necessary to take a short view of the most frequent and remarkable.

"Some species of eruption most commonly attends it, and this is usually either of the papular or scaly kind. We are not, however, to credit the statement of a recent speculative writer, who would have us believe that it is only joined with the papular. Though appearing most frequently in company with the eruptions I have mentioned, it is not necessarily connected with these or any of the eruptive symptoms, which in such endless variety indicate a constitutional taint. It may be associated with any general symptom; or, as it is distinct from, and independent of all, so it may exist alone. When the characters of any of the eruptions, of which I have now spoken, are sufficiently distinctive of their morbid origin, this concurrence will be decisive of the nature of the ophthalmia, if any previous doubt exists respecting it; but when these are faint and obscure, other circumstances of the case should be looked into: we must examine into the present and previous state of the patient's health, the time he had received any venereal infection, the treatment that had been employed, and the occurrence or not of any succeeding symptom.

"If, in conjunction with some suspicious appearance about the skin, we observe him pale and emaciated; that his health and strength have been for some time on the decline; that he is less equal to his usual bodily exertions; that he complains of pains about his limbs and joints, particularly at night, together with nocturnal perspirations; that at some recent period, generally within the twelvemonth, he contracted venereal symptoms, in the treatment of which there appears something faulty or objectionable; we have strong grounds for concluding the case to be syphilitic.

"If the skin is free from any symptom to which we can attach suspicion, we are next to examine into the state of the throat, which is very frequently affected at the same time with the eye. We shall here often find one or more ulcers, or a greater or less degree of excoriation, or irritation, either actually present with, or immediately preceding, the ophthalmia; and in some instances the transition of the disease from the throat to the eye has been remarkably rapid, a day or two only intervening between its disap-

pearance from one and its seizing on the other. As the symptoms about the throat are often of an extremely dubious character, we can seldom solely rest our judgment on them; but must, as has been observed above, take our view of the case from an inquiry into the other circumstances attending it.

"Besides the symptoms now enumerated, there may likewise be discovered, in different parts of the body, morbid cicatrices, blotches, or ulcers; or the patient may have pains and swellings in his joints, on part of the periosteum or bones; and, in short, any symptom, even the latest or the most remote, may be conjoined with the ophthalmia. Not a few cases, however, will offer, in which the ophthalmia is, for the most part solitary; for, like many other symptoms of lues venerea, it may exist alone, and be our only evidence of a diseased state of the system. In one remarkable case, in which the ophthalmia followed the healing of some warty tubercles about the scrotum and folds of the nates, by means of local applications; it was the first and only symptom indicating this effect. And amongst women, also, we shall often find that, in addition to the ophthalmia, the only circumstance leading to a suspicion of the constitution being tainted, is their having had repeated abortions, or still-born children. Under these circumstances, a familiar acquaintance with the characteristic appearances of the ophthalmia will be particularly useful, as by this means the attention will always be directed to such inquiries as will afford the clearest insight into the nature of the case."

In my own practice, I think I may safely say that I more frequently meet with the disease unaccompanied by any eruption or sore throat than otherwise. So much so, that I can only satisfy myself respecting its nature by inquiries as to the previous occurrence of primary sores, and the present existence of nocturnal pains and perspiration, periosteal tenderness, emaciation, and general ill-health. On the changes which take place in the eye, I rely very much for the purpose of diagnosis, as I shall have to explain presently. This discrepancy as to the place *iritis* occupies in the order of secondary symptoms admits of explanation. Patients labouring under eruptions or sore throat, if attacked by inflammation of the eye, will go to the practitioner most celebrated for the treatment of syphilis, because he naturally suspects they are owing to that disease; but if attacked by *iritis* alone, he will apply to the person he relies on for the treatment of disease of the eye. Hence the one sees most of his cases with eruptions or sore throat, and the other without them.

As it is desirable, if possible, to distinguish the syphilitic from other forms of inflammation of the eye, and as this often cannot be effected from the history of the case or constitutional symptoms, it becomes necessary to consider carefully, whether or not the changes which take place in the organ itself are peculiar, or different from those which occur in simple, uncomplicated, or idiopathic inflammation. In the first stage of the disease, when the changes in structure and appearance are owing to mere increase of vascularity, it is I believe impossible to pronounce an opinion as to the character of the disease from inspection of the eye; but in what I consider the second stage, the period of adhesion, effusion, and loss of transparency, I think a satisfactory diagnosis may generally be made, especially when the inflammation has been permitted to go on for some time unchecked. The opacity of the membrane of the aqueous humour takes place more frequently, and is more remarkable; the effusions of lymph or purulent matter into or upon the iris is more usual and characteristic; and the adhesions of the pupils to the lens are more rapid and extensive in formation. The opacity of the membrane of the aqueous humour is indeed almost exclusively found in syphilitic *iritis*. It occurs in that form of inflammation of the eye which is in a great degree confined to the chamber of the aqueous humour, and which is generally observed in delicate females of feeble frame or scrofulous constitution; but seldom, if ever, in the simple idiopathic inflammation of vigorous and healthy men. It is to this opacity I alluded on a former occasion when describing the changes which take place in the membrane of the aqueous humour in consequence of simple inflammation,

and I again noticed it more in detail when enumerating the permanent effects of inflammation. Mr. Wardrop notices it when treating of inflammation of the membrane of the aqueous humour; he says "it is indicated by one or more spots which distinctly denote an opacity of its substance. These do not resemble any of the common form of speck, but have a mottled appearance; and Mr. Hewson describes it in the inflammatory stage, considering it to be a clouded or opaque condition of the aqueous humour itself. He observes, "this humour is always more or less clouded by an opaque fluid which is generally seen floating in the anterior chamber. This prevents a clear view of the iris and pupil, and causes an appearance as if there was an opacity of the cornea." In this I am convinced that he was mistaken, because I believe that the aqueous humour is very seldom, if ever, rendered opaque by effusion of purulent or other matter into it; but on the contrary, when purulent matter is secreted, it does not become diffused or mixed with the natural fluid, but falls down, presenting the peculiar appearance called hypopium. That it appears very like a muddy or clouded state of the aqueous humour I admit, and this is rendered still more deceptive by the circumstance that the opacity seldom occupies the whole of the membrane of the aqueous humour lining the back of the cornea, but is confined to its lower half or two-thirds, leaving the upper part transparent, as if the opaque material had subsided towards the bottom. It is, however, to be observed, that the mottled or speckled appearance is not seen during the inflammatory stage; it is one of the effects or consequences which remain long after the inflammation has subsided. The opacity is at first a diffused, uniform, muddy, or clouded patch resembling, as has been seen effusion into the aqueous humour.

Syphilitic inflammation of the eye, although unaccompanied by any cutaneous eruption, sore throat, or other secondary symptom, may generally be recognized from the greater amount of disease affecting the iris. That the yellow depositions of coagulable lymph or purulent matter already described, may sometimes occur in other forms of inflammation cannot be denied, but that they occur far more frequently in the syphilitic form is equally certain. Whether we call them globules of lymph or abscesses, they are found in their most perfect and characteristic shape and appearance in this species of inflammation; so much so, that when present I hesitate not to predict at first sight that on inquiry the existence of syphilitic disease will be established. These depositions have already been described when treating of the consequences of inflammation in its simple or uncomplicated form; it only remains to add, that the dull-red or light-brown irregular ring surrounding the pupil is perhaps found almost exclusively in the syphilitic species. The greenish-yellow stain, on the other hand, is as often, if not oftener, observed in idiopathic inflammation, or after injury.

These depositions, tubercles, or globules, are described by Mr. Hewson as follows:—

"Likewise, we will have in many cases to attend to a very singular, and, I might add, characteristic symptom to which I have already alluded—namely, the formation of one or more small tubercles on some part of the iris. When these occur, there is always more pain and tenderness felt in the eyeball than usual; they commonly present themselves at or near the pupil, and on that part of it where the morbid process is most active. Now and then they are seen on the surface of the iris, between the pupil and its ciliary attachment: they are found from the size of a large pin's head to that of a small split pea; sometimes there appears but a solitary one, at others we see two or more of them unconnected; but in some cases a number are clustered together, and project into the pupillary space, so as nearly to fill it up, or protrude forward into the anterior chamber; at one time they hang pendulous, at another they are attached by a broad base; when small, they are of a dark red colour; but when large and prominent, they are more or less white at the apex, while about

the base the redness continues. By closely examining them in this latter state, we shall distinctly observe that the inflamed superficial membrane of the iris is reflected over them, and forms their anterior covering; and thus, when these tubercles are small, their covering retains the redness caused by its state of inflammation; but when they are larger and more pointed, it becomes transparent about the apex, where, as happens in a common pustule, their whitish contents are visible.

"While in this state, in some rare cases, the tubercle bursts, and its purulent contents are poured into the anterior chamber, thus giving rise to the symptom called hypopium, so common in idiopathic internal ophthalmia. The different circumstances, however, I may here shortly remark, under which this symptom occurs in these respective species of ophthalmia, are, with a little attention, sufficiently manifest; for, in the venereal case, we clearly observe that the matter is deposited into the anterior chamber from the pustular tubercle, which is previously formed and always present; whereas, in the latter instance, we cannot distinguish from what direct source it is produced.

"After the disappearance of these tubercles, we may often discover a fissure of cicatrix in that part of the iris where they have been situated. With regard to their nature, from what I have observed of them, I would conclude that they are either pustular or for the most part formed of a purulent deposition. Having never found them attendant on any other kind of inflammation or morbid action, I have always looked on them as characteristic of venereal ophthalmia."—*Dublin Medical Press.*

## PRACTICE OF PHYSIC AND PATHOLOGY.

### CASE OF HYDROCEPHALUS IN A CHILD.

By JAMES EDWARD, M.D., L.R.C.S.E.

As medical attendant on the family of William Boath, residing in this place, I was called upon, in the summer of 1839, to attend one of his children, eight months of age, which, upon examination, I found to be laboring under chronic hydrocephalus—a disease which had carried off two of Boath's children at a former period.

I found the child fretful and peevish, leaning his head alternately on his mother's arm and breast, with a small, irregular pulse. He was restless and disturbed in his sleep. In the course of my attendance on him, he was alternately affected with diarrhoea and constipation of the bowels, the tongue being sometimes clean and at others foul; the face had generally a hectic appearance; the skin was occasionally hot and dry.

I scarified the gums, applied a leech to each temple, and had him occasionally bathed to the middle in warm water. The bowels were rectified as occasion required by aperients or astringents. Cold applications were occasionally applied to the head when it felt very warm, but were discontinued when the temperature was reduced. Blisters were applied to the nape of the neck successively for a considerable time, and latterly these were re-placed by a liniment of croton oil rubbed over the head and neck, which produced an eruption on the latter, but only an erysipelatous blush over the former.

Notwithstanding the continuance of this treatment during a period of six months, the disease gradually gained ground. Convulsions and squinting made their appearance, and I considered that tapping for the evacuation of the effused fluid afforded the only chance of recovery. I determined, therefore, that the operation should be performed, and in the presence of David Murray, M.D., and other assistants, proceeded as follows:—

The child was placed across the knee of Dr. Murray, with his head towards myself, and I applied loosely a starched bandage, the ends of which were given to an assistant, that he might tighten it as the fluid was being evacuated. I then introduced a common hydrocele trocar and canula a little to the right of the lateral angle of the anterior fontanelle, to the depth of about an inch in the direction

of the right lateral ventricle. Having withdrawn the trocar, a reddish fluid was allowed to flow to the amount of 3 viij, when I withdrew the canula, applied a compress on the wound, and tightened the bandage for the thorough support of the cranial bones. A slight oozing of blood took place from the nostril, and continued for twenty-four hours: whether from an accidental wound of any small vessel within the cranium, in the course of the operation, I am unable to say.

Nourishing diet was ordered; aperient medicine when necessary; and the body to be kept comfortably warm. All the former symptoms gradually disappeared, the child recovered his health, and now, after a lapse of seven years, is a fair scholar, and has every faculty good. He appears, however, to be increasing in height more slowly than is usual at his age.—*Edin. Monthly Journal of Med. Sci.*

#### CURABILITY OF HEPATIC ABSCESSSES.

By M. FAUCOMEAU-DUPRESNE.

(Read at the Society of Medicine of Paris, May, 1846.)

The subject of this memoir is interesting, but we can only give the substance of the paper itself. Pus is formed in the liver, either from inflammation beginning in the organ itself, or from metastasis; that from the first cause only is considered here. Suppuration presents itself in this organ under different aspects; infiltration of pus through the whole extent of its structure is very rare, but an example of it was sent me this year by M. Chomel; one or more circumscribed abscesses are much more common. If the abscess be recent and quickly formed, it is thin, like whey, and contains flocculi, in other cases it is thicker, unctuous, of a yellowish, greenish, or whitish colour. If one of the biliary ducts opens into the cavity of the abscess, the colour of the bile is easily recognized, and the matter is particularly viscid; traces of blood may be sometimes discovered in it, giving it the appearance of lees of wine, or chocolate, but this is purely an accidental circumstance, and is not a necessary character of hepatic abscess. The quantity of matter found varies from a single drop to twelve or fifteen pints. There may be but a single abscess, but more generally three or four, and occasionally as many as thirty or forty have been discovered. Usually in size they would contain a small orange in their cavity; several abscesses in the neighbourhood of each other generally communicate; they are often traversed by vessels, not so often impervious as is supposed, for they frequently give way, before obliteration; at first the cavity is lined by a soft membrane, which in time will become a firm thick cyst, intimately connected with the parenchyma of the liver; sometimes no cyst or circumscription can be discerned. When matter forms deep in the substance of the organ, and in large quantity, little can be hoped from the power of nature to effect a cure, the patient gradually sinks under hectic; but if the collection is small he may recover, by its slow absorption, and that of the cyst, which leaves behind a hard fibrous knot, sometimes cretaceous, containing phosphate and carbonate of lime; in numerous investigations which I pursued at La Charité, it must be admitted, that I could not trace the origin of those latter to an obliterated cyst of an abscess; but my friend Dr. Charcelay, Professor of Clinical Medicine at Tours, has satisfied himself that these deposits have been the remains of abscesses. When matter forms near the surface of the liver it may escape externally without getting into the peritoneal cavity; but this is not always a fortunate circumstance. Notwithstanding the adhesions which generally form round these abscesses which tend to come forward externally, many examples have been observed where the matter did get into the peritoneal cavity, and often caused a fatal peritonitis, particularly where it formed at the concave surface of the liver, as was the case with Victor Jacquemont, the traveller. Abscess of the liver has made its way into the substance of the spleen. It has got into the thorax, and a cure was effected in two cases given by Taillard and Morand by operating as for empyema. There are two cases on record where the matter got from the liver into the pericardium, which were of course fatal. The most favourable cases are where the matter escapes directly or indirectly through the walls of the abdomen; sometimes they point at the umbilicus, or between the ribs, or as Portal saw in a subject brought in for dis-

section, between the lumbar muscles, where the matter insinuated itself along the ribs, even up to the axilla. Schenkens is said to have seen one of those abscesses pointing low in the thigh; it may make its way between the pleura and ribs without perforating the membrane and getting under the superficial muscles of the chest; they sometimes make their escape by the biliary, urinary, or digestive canals, or may get through the substance of the diaphragm, pleura, and lungs into the bronchi, and be thus discharged. After reciting a number of cases, M. F. concludes that abscesses of the liver, even of considerable size, are curable by the *vis medicatrix naturæ*, and that there are sufficient proofs to warrant hopes from the assistance of art in several cases from opening these abscesses.—*Dublin Medical Press.*

#### CASE OF EXCESSIVE HYPERÆSTHESIA.

By Henry Haines Fox, of Columbia, Penn., in a Letter to Professor Dunglison.

Dear Sir,—The case of general paralysis followed by hyperæsthesia, in a boy aged 11 years and 9 months, at the time he was first attacked, and concerning which I consulted you last winter, has evidently improved in many respects under the treatment recommended by you; which was, as you will recollect, to avoid as much as possible everything that would tend to irritate, or aggravate him in any respect, mentally or corporally, and to trust to the recuperative powers of the system.

As the case is a singular one, and may interest you, I will give you a brief history of it from the commencement. The first thing that attracted the attention of his parents was a hard rough cough, which occurred in January, 1844. He had, however, complained occasionally of wandering pains in his shoulders, with slight weakness of his limbs upon rising from bed in the morning, for some months previous to that time, but these soon passed away. The cough became gradually worse, accompanied with pains and soreness in his teeth, mouth and throat; until the latter part of February, the coughing was almost incessant, especially in the day time, although not attended with any expectoration. At this time a physician was called in, who pronounced the disease to be inflammation of the lungs, and treated it accordingly; he did not, however, order the patient to lose blood. After the application of the second blister to his breast, the cough left him entirely, and the physician ceased to visit him. It was not long, however, before he began to complain again of his jaws and throat, so that it was with difficulty that they could prevail on him to take nourishment, from the pain and difficulty attending deglutition. From this time he began to lose strength, and became very costly, having no evacuation for several days; but by repeated injections they succeeded in procuring one. After the first enema he wholly lost the use of his limbs, and has not been able to help himself in the least up to the present period. After the second enema he lost all control over his eyelids, for several days, but it has since partially returned to him. If requested to move them when open, they almost invariably closed in an instant: this condition continued for a period of several months, but he gradually recovered, so that now they are under the influence of the will as well as before his illness. About the first of April, 1844, he began to complain of his head, whenever he was moved, and in a short time his parents were unable to move him or change his position in bed. Owing to his weakened and prostrated condition, they have been unable to ascertain whether there is tenderness along the spine, as the least movement or change of position is attended with the most alarming symptoms; the last time his bedclothes were changed he remained senseless—perfectly unconscious of everything—for a period of two hours. It was in April that he began to complain of noise affecting him; and the hyperæsthesia of the organ of hearing soon became so great, that the barking of a dog outside the house would throw him into an insensible state for minutes. Although his ears were well filled with cotton, to prevent as much as possible the im-

mediate contact of noise with the super-sensitive organ, such was his impressive condition that his father was compelled to relinquish farming for several months, being unable to thrash his grain, or drive his team past the house.

In the latter part of summer, he experienced stitches in the posterior part of his head, which were followed by pain in the back, shooting up to the head; but these finally left him, so that at the present time he does not complain of any. His reason seems to have become impaired with the increase of the malady, especially on some points, though not on all—often conversing for hours without showing any impairment of the mental faculties whatever. His memory has remained perfect throughout the illness; he recollects apparently everything that has occurred, but his temper is greatly changed; he often breaks out into violent rage, and, at the same time, makes use of language which he never did before his sickness. His shyness, or dread of strangers, commenced about the time he lost the use of his limbs. He cannot be prevailed upon by any of the family to permit many of his near relatives to see him, but above all he objects to physicians; for whom he has the greatest dread imaginable. For more than a year anorexia was great, so that it was often difficult to prevail on him to take the least quantity of nourishment; consequently he became greatly emaciated; of late, however, his appetite has improved greatly—he has become more fleshy, and has evidently grown within the last nine months. He has had no medical treatment since his first attack: upon this point his father—in a letter dated February 19th, 1845—speaks thus: “I sincerely believe it was impossible to have resorted to any active means since last May, owing to his great prostration and utter abhorrence of all physicians. I have been expecting every day would be his last for some months.”

Since last April the super-sensitiveness of the auditory nerve has been gradually diminishing, until it has become nearly natural; and he now seldom complains of noise disturbing him, unless it is very loud. His appetite has returned, so that he takes a good share of nutritious aliment; consequently his nutrition has greatly improved, and he has evidently grown in stature within the last nine months. Although still unable to exert any control over his limbs or body when awake, it has been observed, of late, that he does change their position in his sleep. These are among the more marked changes which have occurred since last winter.—*Medical Examiner*.

## MATERIA MEDICA AND PHARMACY.

### ON THE EFFECTS OF EXTRACT OF CONIUM MACULATUM.

By HOSEA FOUNTAIN, M.D., of Somers, Westchester co., New York.

I was much interested in reading an article in the number of the *American Journal of the Medical Sciences* for July last, from the pen of Dr Earle of New York, on the effects of the extract of *conium maculatum*. As I have been in the habit of prescribing this remedy occasionally, and always observing marked effects from its use, I was much surprised at the slight results obtained from the large quantities mentioned by your correspondent. His communication describes the symptoms arising from the internal use of the drug as usually found, I suppose, in the shops, which were so slight and transitory, that we may safely conclude that the medicine is either inert, and should, therefore, be discarded from the *materia medica*, or that the extract experimented with was improperly prepared, or had lost its virtue by age or some other cause.

That *conium* is an active agent, few who have witnessed the effects of a well-prepared fresh extract will be disposed

to doubt; and that it is useful in disease must be admitted, when such troublesome complaints as chronic affections of the liver, habitual costiveness, jaundice, &c., are relieved, and often cured by this remedy alone.

To show that *conium* does act with some energy on the system in less quantities than taken by Dr. Earle, I will describe the effects of a single dose on myself. The extract was prepared from the fruit, or seeds of the plant, with no other care than that the infusion was not at any time allowed to reach the boiling point. When of a syrupy consistence, the evaporation was finished in shallow pans, in the open air.

Fearing, from its dark color, it had been injured in its preparation, I swallowed about twelve grains, to test its activity, and quietly awaited its effects. Half an hour passed away without any alteration in my feelings, when supposing the medicine worthless, I threw part of it, from which I was preparing some pills, in the street, and started on my daily ride. In a few minutes, however, I observed a dimness of vision, with bright points scintillating, or rather quickly moving in the distance. This caused me to turn from side to side to notice them: and from this cause, I suppose, I found myself reeling in the saddle. There was no vertigo or unpleasant sensation about the head to produce this effect, save a slight feeling of lightness. Very soon, a numb, pricking sensation was felt in the fingers, extending gradually to the elbows, producing a stiffness of the muscles of the parts, making it difficult to move the forearm and hand. In a few minutes the same sensation was observed in the feet, creeping slowly upward, until it reached the upper part of the thigh. The eyes now began to feel uncomfortable, causing me to brush them frequently, to clear apparent obstructions from the lids. The pulse was soft and feeble, but not more frequent than usual. In dismounting, about an hour from the commencement of the symptoms, I found so much difficulty in walking as to require assistance to reach the house, the inferior extremities appearing nearly paralyzed. So little pain or distress was felt, however, that I laughed heartily at the predicament I had so unwittingly placed myself in. Feeling anxious to get rid of this annoyance, as well as from the solicitude of those around me, I tried what effects smoking of tobacco would produce. I had been in the habit of using this luxury occasionally, and at this time had a strong desire for it. Whether from this cause, or from rest and composure, I soon felt very much relieved. Vision became clearer; the limbs less troublesome; and whilst sitting, little or no apparent effects of the poison remained. On rising, however, the inferior extremities persisted in their unwillingness to move; but much less so than before. The whole day passed away without being entirely rid of these feelings, and it was not until I enjoyed my usual sleep that perfect vision was restored. I will observe, that the intellect appeared unaffected, the bowels and kidneys were not disturbed, neither was any soporific effect produced. The action appeared to be confined to the brain, exhausting it of blood, and diminishing its energy. Hence the partial paralysis, which a few more grains would, perhaps, have rendered complete. The aberration of vision arose from the same cause: and convulsions from exhaustion, as from loss of blood, would probably have followed, had a larger quantity been taken.

As I quote this case from memory, I cannot speak positively as to the lapse of time between the taking of the extract and its effects; otherwise this statement is as correct as one can be expected to describe from one's own experience and feelings.

In this instance, it will be observed that a small quantity compared with what Dr. Earle took, produced symptoms of the poisoning of hemlock; so much so, that I could not be persuaded to experiment on myself with a larger quantity of the same extract. A single pill of this, of three or four grains, produced very unpleasant effects on a young man af-

fectured with chronic peritonitis. He described his feelings as a snapping and crackling of the eyes with a drooping of the lids, and darkness before him—this was attended with a feeling of great weakness generally. An aged lady, affected with chronic inflammation of the liver, attended with constipation and indigestion, as well as extreme vigilance, the pulse frequent and tongue coated, was put under the use of this remedy. She took four grains of the extract thrice daily. On the second day, she complained very much of soreness of the globes of the eyes, and a feeling of weight and tightness over the eyebrows, and dimness of vision. The pulse became softer and less frequent; in a few days the bowels moved naturally, and she was soon able to enjoy calm and refreshing sleep. The disease, in this case, was of more than twenty years duration; and as no other medicine was given her at this time, the relief must be attributed entirely to the conium.

I mention these cases to show, that it was not from any peculiarity of constitution that caused the small quantity taken to produce the effects as described on myself. And although the seeds of the plant furnish the most active extract, I have known ten grains of that prepared from the fresh leaves cause very severe effects.

From these cases, I think we can safely conclude, that the extract of conium is an active remedy; and that a few grains of a well prepared fresh article are sufficient to prove its nature and efficacy in disease. As the plant grows luxuriantly through the country, would it not be better for physicians to obtain the fruit or fresh leaves, and prepare an extract that would not deceive them, rather than prescribe hundreds of dollars' worth of such inert preparations as those experimented with by Dr. Earle? At least, should not druggists be industrious enough to prepare it in such a manner as to insure an uniform effect from its administration?—*Amer. Jour. of Med. Sci.*

## MIDWIFERY.

### THE USE OF INSTRUMENTS IN CHILDBIRTH.

(To the Editor of Boston Medical and Surgical Journal.)

SIR,—I noticed in your Journal of the 21st inst., a communication of Dr. Comstock, in which he puts some interrogatories to the profession. The first is, "What proportion of cases of midwifery, that have fallen within your practice, have required instrumental aid; and of those, what have been delivered by the forceps?" In order that I may answer this question to the understanding of your readers, it will be necessary to state how many cases of midwifery have been under my care. I have attended twelve hundred cases of midwifery at the full period of utero-gestation; of these cases two have had the forceps applied, and in one craniotomy has been performed. In answer to the second question, I would say that the application of the forceps in one of the cases was unnecessary, the powers of the woman not flagging at all; and the consulting physician acknowledging that the labour would take place in two hours by the unaided efforts of nature. To the third question I can only say that I have never seen a woman injured from a too long retention of the head; whereas, in the forceps cases it was a long time before the parts recovered their tone. To the fourth interrogatory—"Have you ever seen a ruptured uterus from the use of ergot?" I answer that I have not, nor any other injury to the woman. There has occurred one case of ruptured uterus in the twelve hundred, and that took place from a hydrocephalous head without any irritation of the uterus by artificial means. The woman lived four days, and died from peritoneal inflammation. The ergot may often supersede the application of the forceps where there is no

disproportion between the head of the child and the pelvis of the mother; but the pains are feeble, and there appears to be a want of muscular power in the uterus. I should have no fear of ergot ever proving injurious to the mother, but to the child it is somewhat hazardous unless there is a long interval between the labour pains. When that is the case, ergot may generally be given with safety to the child.

Of these twelve hundred women, several have had puerperal fever; but one has died of it. One woman died of pleurisy, being attacked with it on the day previous to the labour. By far the greater number of deaths have occurred some months after confinement, from consumption or cancer. The proportion of deaths that have taken place from all causes, I have neglected to notice.

Yours respectfully,

E. WOODWARD.

Quincy, Mass., January, 22, 1846.

[We strongly recommend the above article to the consideration of some of our "Meddlesome Midwifery" brethren. We could probably find some who have used the forceps rather more frequently than E. Woodward of Quincy, Mass.]

## MEDICAL JURISPRUDENCE.

### UPON THE POSSIBILITY OF PRODUCING AFTER DEATH SOME OF THE CHARACTERS OF BURNS OCCURRING DURING LIFE.

By M. CHAMPAUILLON,

Professor at the Military Hospital, Val-de-Grace.

To determine whether a wound was inflicted during life or after death, is sometimes attended with great difficulties, and involves the medical witness in considerable perplexities frequently. The essential point to set out from in such investigations should be an accurate knowledge of these phenomena which characterize the vital reaction upon the different tissues. The appearance of burns varies according to the agent—that is, whether it is caused by fire or some chemical substance; in the latter case, the appearances differ with the nature of the substance inflicting the injury. It is often necessary in legal medicine to form a precise opinion as to the intensity of burns, which is drawn simply from the redness of the surrounding skin or its greater or less carbonization. But between those there are intermediate shades which show themselves under the appearance of phlyctenæ and escars either superficial or deep. The question presents itself—Can these signs which are given as characteristic of burns taking place during life, be produced after death? M. Léguy gave it as his opinion before the Tribunal in a particular case that a burn which took place before death, may be distinguished from one after death by the appearance of a red circle surrounding the part in the former; M. Accarie, on the other hand, that this distinction was of no value whatever, as the redness would disappear after death, as the redness of erysipelas did. It has been asserted that the presence of *bullæ* indicates to a certainty that the burn had taken place during life;—but M. Leuret discovered by chance that heat applied to a part of the surface of the dead body can produce these blisters, provided the person had died anasarca, and from a number of experiments he made subsequently, he proved the possibility beyond a doubt in such subjects, but was unable to produce them where there had been no anasarca before death. This should be recorded, but something more than the isolated fact would be required before rigorous and satisfactory conclusions could be safely drawn as to the main question. M. Champaillon has endeavoured to supply some deficiencies in our means of arriving at the truth. It is not, so to speak, by



the immediate contact of a heated body with an anasarcaous part that blisters can be raised in a dead body—in such a case the cuticle may indeed be elevated at the part, but it will be by air, and never will contain a liquid; the number and size of the ampullæ appear to him to depend upon the quantity of combustible employed, the distance of the heated body from the skin, and the duration and intensity of its rays. If a metallic ball heated to redness, or a metallic vessel filled with boiling water, be placed within an inch or two from the anasarcaous limb of a dead body, no vesications will be produced, because the heat is not furnished as quickly as it is dissipated; but if, on the contrary, the body be placed at a convenient distance from a fire, the rays of heat from which continue for some time of the same intensity, phlyctenæ will constantly be produced. By known physical laws, when the heat has diminished the atmospheric pressure on some spot of the trunk or limbs, the serous fluids flow to the part, raise the epidermis, and form collections perfectly like the phlyctenæ which characterize burns in the living body. In proof of this theory of the phenomenon, take a cupping-glass of the proper size, apply it on an œdematous spot of a dead body, and exhaust its air, numerous vesicles filled with reddish serum will be immediately produced. The removal of the atmospheric pressure from an œdematous part in a dead body, whether by heat or other means, seems the only cause of the production of these appearances; but the vesications are produced in a different way in the living body—are in fact the result of the organic sensibility of the part. M. Leuret remarked that the serum was bloody in his observations, but the red colour is rare, for in M. C.'s experiments the serum was red in but six out of twenty-two instances. In experiments on dead bodies the blisterings do not appear suddenly in general—it takes from two to six hours for their appearance, but no doubt the time might be shortened by increasing the degree of heat. M. Champauillon having only experimented on young subjects, cannot say but modifications might be found in the results from age, sex, &c. In no cases has he remarked any difference to occur from the experiments being made immediately after death, or during cadaverous rigidity, or when putrefaction has commenced; the productions of the vesications did not seem either favoured or retarded by these conditions of the subject. Christison has laid it down as an established principle that a permanent red circle round the part indicates that the burn took place during life, and it has become therefore a guide in evidence, but M. C.'s observations are far from sanctioning the value of this test, as an appearance almost identical can be produced in the dead body, and in fact every experiment in which vesications were produced, but one, the red line, regularly indented, was also produced, and is considered by him accordingly as necessarily connected with the vesications. In the dead as in the living body the red line has the same superficial appearance, but an incision through the skin distinguishes them from each other beyond any doubt—in the one case, it is found a simple injection of the cutaneous capillaries, perfectly resembling the vascular ramifications on the intestines of persons killed by drowning—in the second case, the blood is found extravasated among the tissues, and incorporated with them; the inflammation in the one is marked by an opaque homogeneous layer, but in the other there could have been no vital reaction to cause it. When the cuticle is removed from the vesications caused by heat to the anasarcaous limb of a dead body, the cutis is found converted into a white mass, its surface gluey, and a total absence of injected vessels—is this the case with burns occurring during life? M. C. had occasion to examine the bodies of four artillery-men covered with these vesications, who had been killed by the explosion of a mine; the cutis beneath these vesicles continued to present a high degree of inflammatory redness which could not be effaced by refrigerants. From all that has been said it appears demonstrable

that whether the burn is caused before or after death, the appearances are precisely the same; that it is not possible to distinguish them except by a careful dissection of the skin; that even dissection furnishes results too inconstant and subtle to be much depended on; and finally, that Christison's diagnosis is worth nothing when the subject for examination is anasarcaous.—*Annales d'Hygiène Publique*.

## THE HYDROPATHIC SYSTEM.

### IMPORTANT CORONER'S INQUEST.

Friday the investigation was concluded before Mr. W. Payne, concerning the death of Mr. Richard Dresser, who was alleged to have died from the effects of improper treatment received at the hydropathic establishment of Dr. Ellis, Sudbrooke-park, near Petersham.

The inquiry excited the most intense interest, and the jury-room was densely crowded by the professors of the hydropathic system, and other members of the faculty, amongst whom were observed Dr. Schnitz, the celebrated German professor of hydropathy, Dr. Carié, Mr. B. Rotch, the county Magistrate, &c. Dr. Ellis was also in attendance, supported by Mr. Prendergast, the barrister, and Mr. Hance, solicitor. Mr. Jones, solicitor, of Bucklebury, attended on behalf of the friends of the deceased.

The evidence taken prior to the adjournment went to show that the deceased had for the last three weeks been subject, as he considered, to rheumatism and sciatica. He was very ill, and expressed himself much in favour of the hydropathic system of medical treatment, and in consequence, his wife was induced to write to Dr. Ellis, who keeps a hydropathic establishment at Sudbrooke Park, Petersham, Surrey. The deceased went to Dr. Ellis's establishment on Friday week last, and was there subjected to the water system of treatment, under which he died on the following Tuesday.

John Maynard was first called.—He said, I am bath attendant at Dr. Ellis's establishment, near Petersham. I recollect seeing the deceased Mr. Dresser, from the Friday evening till the Tuesday morning. When he came on Friday evening I saw him, and he appeared very ill. I saw nothing done for him before he was put to bed. On Saturday morning he had a bath at a temperature of 65°. He was in the bath for 90 seconds. He was attended by Dr. Ellis during the day, but I saw nothing more done for him that day. I carried water into the room, both hot and cold, during the day, two or three times, but I don't know what was done with it by Dr. Ellis to Mr. Dresser. There was about half a gallon of cold and half a gallon of hot water each night. On Sunday morning I prepared deceased a bath as before, and I also carried in hot and cold water. When I carried water in, Mr. Dresser was lying on the bed in blankets. After Mr. Dresser had the bath on Sunday morning, he went out and walked in the pleasure ground with me for about five minutes, and afterwards with Dr. Ellis. He then went to breakfast with other patients in the public room. He afterwards lay down with the blankets over him, and I carried in water as before. I saw Mrs. Dresser there on the Sunday. On Monday morning he again had a bath, and tapioea and bread and butter as nourishment during the day. I carried no water in on Monday until the evening. A bath might have been given to Mr. Dresser without my knowledge. I made no observation on Monday evening about the perspiration in which deceased had previously been having stopped. I did not see Mrs. Dresser in the room on Monday night, or make such an observation to her. I saw deceased on Tuesday morning, and I believe that the Doctor sat up with him all Monday night. He had no bath on the Tuesday morning. It was about 7 o'clock in the morning, and he was lying on the bed. I did not see him afterwards alive. I am not aware that he had any other food than the tapioea and bread and butter I have spoken of. One of the bathmen was ill on Monday, and the "boots" attended for him.

By Mr. Jones.—The "boots" was in deceased's room on Monday evening, and might have taken a bath without my knowledge. There are no written minutes of the temperature of the baths, but there are written orders as to the heat hung up in the patient's rooms. We try the heat with a thermometer.

By Mr. Prendergast.—On the Sunday I took some castor oil to deceased by order of the Doctor. The deceased took all the food he desired.



By a Juror—We changed the temperature of the water frequently, according to the Doctor's orders. I never took the cold water without the hot.

Mr. Charles Waterworth, examined—I reside in Bengal place, New Kent-road, and am a surgeon. I have known the deceased, Mr. Dresser, for six or seven years. During that period his general state of health has been good. I attended him for rheumatism four years ago, occasionally in the stomach. I last attended him for jaundice and stomach derangement in March last, which arose from impediment to a natural flow of bile into the bowels. There was not disease of the liver. I have not seen him since the middle of April, when I attended the *post mortem* examination of the deceased's body. There was nothing to account for death but the congested state of the lungs and the heart. Mr. Hicks was present with me, and we both agreed at the time as to the cause of death.

The Coroner here handed the paper, purporting to be the cause of death, to the witness, which Dr. Ellis had given to the deceased's cousin, and asked if he had read it?

Witness—Yes, I have.

The Coroner—Does that statement agree with what was ascertained on a *post mortem* examination?

Witness—Not in any one point.

The Coroner again read the paper in question, and called the attention of the witness to various symptoms the deceased was stated therein to have exhibited by Dr. Ellis, the whole of which he contradicted from his own observation of deceased.

Evidence resumed—From reading this paper I have no doubt the deceased was treated for disease of the liver and its consequences. Deceased was a man of very feeble power as regarded the action of the heart. I don't think there could have been any reason for treating him for diseased liver. The only judgment I can form of what disease deceased was labouring under from that report is difficulty of breathing. Had the liver of the deceased been diseased as described, nothing could more rapidly have destroyed his life than the hydropathic system. The placing him in baths would peril the life of a patient labouring under disease of the liver, particularly with suppuration, by lowering the power of the system.

By the Coroner—I attribute the congestion of the lungs and heart of deceased to the external application of cold.

By Mr. Prendergast—A depression of animal powers—depression of the action of the heart, may cause congestion of lungs and heart, but not to this extent. The liver was not congested, although Mr. Hicks thought so; but I can say I hardly ever saw a more healthy liver in my life. It is a falsehood for any one to say that this investigation has been induced by me. I never suggested to the widow to have her husband's body opened.

Mr. Prendergast here proceeded to cross-examine the witness, and Mr. Waterworth loudly complained against the course of proceeding.

The Coroner interfered, and remarked, that as Mr. Prendergast was attending in behalf of a person whose position might be affected by the inquiry, it would, perhaps, be necessary to answer all the questions put by that gentleman.

Mr. Waterworth was then cross-examined at great length, as to conversations he had with Mrs. Dresser, since death, and as to the *post mortem* examination.

Mr. Prendergast again commenced calling out to him—"Come, Mr. Medical man, do you mean to answer that?"

Mr. Waterworth again appealed to the coroner for protection.

The Coroner—I cannot, Mr. Prendergast, allow you to insult a respectable gentleman, under examination in this court, by using such terms as—"Come, Mr. Medical man;" do behave as a gentleman, Sir.

Mr. Prendergast (with great warmth)—Oh, you say that to me, do you?

The Coroner—Yes, and if there is a repetition of the conduct, I shall have you removed from the court. I am always willing to give every license to professional men to discharge their onerous duties before me as coroner, but I again say if there is a repetition of such conduct as yours, Mr. Prendergast, I must order your removal. (This declaration of the coroner was received with a loud burst of approbation from all present, which was with some difficulty silenced.)

Cross-examination continued—I think any baths in deceased's case, whether hot, or cold, or tepid, to have been injurious. I think that warm water at 85 would, improperly used, produce

congestion. It would depend upon how long it was applied. I think it must be the opinion of every well-educated medical man, that tepid water improperly applied would produce congestion.

The Coroner said, as far as he was concerned, all the witnesses had been examined; if, however, Mr. Prendergast chose to call any on behalf of Dr. Ellis, he was quite at liberty to do so.

Mr. Prendergast said he did not know if it was necessary to call any one, but he claimed his right to address the jury, as there was a serious charge against Dr. Ellis, which might affect him criminally, and he wished to show the law as it affected medical men, who were not responsible for the death of a patient under them when they were striving to do him good.

The Coroner said that was the argument adduced in the case of St. John Long, and the judges overruled it.

After a long discussion between the coroner and the learned council, the former decided not to hear any address, as it was irregular.

Mr. Prendergast then desired to offer evidence as to Dr. Ellis's competency.

The Coroner said he would hear any one called to prove that Dr. Ellis was a really qualified practitioner in the eye of the law.

Mr. Prendergast said it mattered not whether Dr. Ellis belonged to a certain College of Surgeons or not, he could practice legally without that. The learned counsel not calling any witness on this point.

The Coroner proceeded to sum up the case to the Jury. He observed, that in the case of Mr. St. John Long, which had been previously alluded to, the judges had laid down the law in a very clear and perspicuous manner, as did also the Lord Chief Justice, who was then Attorney-General, and conducted the prosecution. That learned authority argued, as in the case of St. John Long, that although there might be no malice aforethought, if he proved the defendant had applied himself to the treatment of a case of which he knew nothing as to its proper treatment, and that he administered a liquid or medicine of the constitution of which he had no knowledge, he was clearly guilty of manslaughter. The judges in the same case laid it down that, whether a man was a legally qualified practitioner or not, went for nothing. The question was, whether the treatment adopted was a rash and reckless treatment, and which had resulted in the death of the patient, or whether it was such treatment as might, under any other circumstances, have ended in fatal results. Now, in the present instance, they had no evidence that Dr. Ellis was not a duly qualified practitioner, and, therefore, the sole question for the Jury to consider was whether, in the present case, he had acted towards the patient in a *bonâ fide* manner, or had acted in his treatment with a gross degree of recklessness or rashness and incaution, and thus caused death to ensue. If the Jury viewed the case as one of *bonâ fide* treatment, then they were bound to acquit Dr. Ellis of all blame; but if, on the contrary, they considered he had acted with rashness, then their verdict would be one of manslaughter.

About half-past 6 o'clock, the Jury retired to consider their verdict, and after about 20 minutes' absence came into court, when

The Foreman said the Jury were of opinion "that Mr. R. Dresser had lost his life by the improper treatment he received in the hydropathic establishment at Sudbrooke park."

The Coroner—Do you say from gross rashness, or from causes over which there was no control? You must either state that, or that it was in consequence of the rash treatment he received there. I must get the Jury to retire again and amend their verdict.

The Jury again retired for about a quarter of an hour, and on their return

The Foreman said—We have unanimously agreed "that Mr. Dresser's death resulted from the rash treatment he received under Dr. Ellis's care. We are unanimous in a verdict of manslaughter against Dr. Ellis."

The Coroner then bound over Dr. Ellis in the sum of £500, and two of his friends, Mr. John Cassell, of St. John's Villas, St. John's Wood, and Mr. David Coote, in the sum of £250 each, as his securities that the Doctor should appear and take his trial at the next session of the Central Criminal Court on the charge of manslaughter.

Mr. Prendergast having thanked the Coroner for the way in which he had conducted the inquiry, the proceedings terminated.

—Cork Constitution,

## MISCELLANEOUS.

## MESMERISM.

From a letter, published in a Dublin paper, it appears that the £100 note deposited for six months in the bank of Messrs Ball and Co., which was, according to the terms of the advertisement in the public papers, "to become the property of any person who, without opening the envelope in which it was contained, should describe every particular respecting the note—such as its number, its date, the bank at which it was payable, &c., and who should read three English words, plainly written on a slip of paper, which was contained in the same envelope with the note," has not been awarded. The six months expired on the 31st March, but the time was extended to the 18th of April, to meet the convenience of a lady, a professor of mesmerism, and the authoress of an ingenious book on the subject, who arrived from London in the beginning of the month, and who expressed a wish to have some time longer to prepare her *clairvoyance* for the test. Six months and seventeen days having expired, and no person having appeared at the bank to examine the envelope, it was opened on the 18th instant, in the presence of Messrs. Ball and Doyne, and one or two other persons connected with the establishment. The note proved to be a printed cheque issued by the house of Messrs. Ball and Co., for £100, payable to Cædipus or bearer, and dated the 1st of October, 1845. The English words (written on a separate slip of paper) were, "To Cædipus alone." Although no person applied at the bank to inspect the envelope containing the note, some communications were received from different parts of England, and one from America, (but none from Ireland,) containing mesmeric revelations respecting the number of the note; and one letter (from Plymouth), enclosed a picture, or (intended) *fac simile* of it. It is unnecessary to add, that these mesmerically-inspired persons were mistaken in every particular.—*Provincial Medical and Surgical Journal*.

## CONCOURS FOR THE PROFESSORSHIP OF ANATOMY IN THE FACULTY OF MEDICINE OF PARIS.

The concours for the appointment of the successor of Breschet to the chair of anatomy in the School of Medicine and Surgery of Paris has been completed. The exercises which the candidates have to undergo are five in number; 1. A written essay, the subject being the same for all the candidates, which must be composed in five hours, without any extraneous aid whatever, and subsequently read in public. 2. An oral lecture, one hour long, on an appointed subject, after twenty-four hours' preparation. 3. An oral lecture on an appointed subject, after three hours preparation, without any extraneous aid. 4. An anatomical dissection or preparation, to be made without assistance, and a public lecture thereon. 5. A thesis to be supported by argument. The subject of all these exercises is appointed by lot. The credit given to each candidate for what is termed "*anterior titles*"—that is to say, his previous scientific and practical labors, is not determined until the foregoing exercises have been completed.

"The subject of the written essay on the present occasion was the *Skin*."

"The following is a list of the subjects of each lecture, with the name of the candidates to whom they were respectively allotted:—M. Dumeril—the secreting organs in general: the liver. M. Chaissagnac—the organ of hearing; the liver. M. Bourguery—the eye; articulation of the head with the spine. M. Despretz—the digestive organs in general; articulation of the head with the spine. M. Gosselin—the cerebro-spinal nervous centres; testicle, vas deferens, and vesicula seminalis. M. Giraldes—comparison of the upper and the lower extremity; the bladder. M. Beclard—the hand; the appendages of the uterus. M. Denonvilliers—the organs of sense compared with each other; the appendages of the uterus; M. Sanson—the respiratory apparatus; the appendages of the uterus."

"The subjects of the theses are:—M. Gosselin—The

ganglionic nervous system; its connections with the cerebro-spinal system of nerves. M. Dumeril—the evolution of the fœtus. M. Denonvilliers—comparison of the two muscular systems. M. Sanson—the articulations in general. M. Giraldes—How far comparative anatomy is useful in the study of human anatomy. M. Chaissagnac—the mucous membranes. M. Despretz—on the value of microscopic researches in anatomy. M. Beclard—the cartilaginous system. M. Bourguery—the appendages of the fœtus and their development.—[M. Denonvilliers was the successful candidate.—Ed.]—*New York Journal of Medicine*.

## CONCOURS FOR THE CHAIR OF EXTERNAL PATHOLOGY (SURGERY) AT MONTPELLIER.

The following were the exercises performed by the candidates. The subject of the written essay was, 'Pass in review the principal divisions of external pathology, to shew theoretically the relations between medicine and surgery.'

"In a lecture, after twenty-four hours' preparation, M. Guissac considered *Cysts in general*; M. Boyer, *Scrofula in a surgical point of view*; and M. Alquie, *Tumours in general*."

"M. Guissac's thesis was, *On the improvements in surgery due to the progress of pathological anatomy*. M. Boyer's, *What is due to nature and what to art in the cure of surgical diseases?* M. Alquie's—*Appreciate the labors of the Academy of Surgery*."

"All the candidates had to deliver an extemporaneous lecture on the same subject, viz.—*On foreign bodies in the air-passage*."

"M. Boyer was unanimously elected Professor of Surgery, and the jury passed a warm eulogium in the most complimentary terms on M. Alquie."—*Gazette Med. de Paris*.

## MEDICAL INSTITUTIONS OF ITALY.

Dr. Morland in a letter to the Editor of the *Boston Medical and Surgical Journal*, published in the last number of that journal, thus observe with reference to the Medical Institutions of Italy:—

Italy certainly possesses many very noble institutions for the poor and the sick—and was, during the middle ages, far in advance of the rest of Europe. At Naples, the "Royal Poor House" should be mentioned as an institution of great usefulness and merit. It was commenced in 1751, and now is an immense building; one side is allotted to females, and the other to males. At present, between 5 and 6000 (according to the statements) are maintained and instructed by this establishment: among other things the inmates are taught *surgery*.—The hospital for *Incurables* is capable of containing upwards of 1000 persons; the sick are received from all parts of the kingdom—and foreigners also. There are clinics also—medicine, surgery, midwifery, an anatomical theatre, &c.

In *Rome*, the hospitals are not so well looking, *internally*, nor, I should think, so well conducted, as in most of the other Italian cities. The small hospital of Benfratelli, containing 80 beds, is much neater and better ventilated than San Spirito, the principal one. The Benfratelli is in the hands of the monks, who perform the services and duties for the sick. The aspect of things was exceedingly *dubious* as to the comfort of the patients. The immense wards of San Spirito are disgustingly dirty and wretchedly ventilated—and, what is worse, they have the most unscientific, *outrageous* arrangement of "*stowing away*" the poor patients in *double tiers*—two tiers on each side of the ward; the heads of patients in tier No. 2. lying at the feet of those in tier No. 1. I have never seen so bad an arrangement in any hospital—nor one so calculated to produce bad effects. More is the shame, too, for this hospital is very richly endowed. The Foundling Hospital and the Lunatic Asylum are also in this building, which, as

you may imagine is immensely large. In the lunatic department the old restraint system is still in use. There are several other hospitals in Rome; indeed, it is the boast there, "that no city in the world devotes so large a sum to institutions of charity, in proportion to the population. But some master's hand is wanted to direct and apply the abundant means. La Consolazione, near the Capitol, is the hospital allotted to surgical cases—a good number of these are *stabbing* cases. It is stated that the average number of patients is about 800 annually.

I attempted to enter the Hospital of San Michele, which is very large, twice, but was prevented each time: once, because it was the "sleeping time;" the other visit, on account of its being fete day. The exclusion of visitors at the time when patients are asleep, is certainly a good idea; and I have often thought that the visits in the Parisian hospitals, made at so early an hour, are decidedly more for the advantage and convenience of the physician and student than that of the *poor patient*, who is often roused from a slumber of great importance to him, to respond to the interrogatories of the visitor. Certainly on the score of comfort and likelihood of benefit to patient, the visiting hour as it is with us is far preferable.

San Michele is highly spoken of, and is doubtless worthy of the praise. It contains a house of Industry and of Correction. It is to be trusted that it is cleaner than San Spirito.

Florence, whose admirable and very extensive collection of anatomical models in wax, is so well known to all medical travellers, and indeed *universally* visited, contains, I believe, only two or three hospitals. One of these, Santa Maria Nuova, is worthy of all praise for the remarkably excellent management exhibited. It is the medical school of Florence, and contained, at the time I saw it, 600 patients, having accommodations for 400 more. The cabinet of pathological and anatomical specimens, although small, contained many very good pieces; the skeleton of a child, with the bones of the skull pushed widely apart by hydrocephalic effusion, the head being enormous—I believe larger than any one I have seen; many specimens of excessive distortion of the spinal column; some wax models of tumours, &c. &c. In a small cabinet are preserved the pieces of the human body petrified by *Segato*. There were portions of the liver, the brain, the intestines; also the organs of animals. You doubtless have heard of the *table-top*, inlaid with petrified pieces of this nature: it, also, is kept in this cabinet.

The hospital is remarkably airy, neat, well arranged, and has an air of great comfort; the different attendants are exceedingly polite, and every part of the hospital was shown with great readiness, and *pride*, too, as I thought. In the midwifery department are many separate rooms, in which the beds were very clean—the nurses neat and looking quite good-natured. There is a room for delivery, and others for those affected with after troubles. In this department was shown to me a bed different in construction from any I happen to have seen; it has, about one third of the way from its head, a slight elevation (continued, of course to the head); beneath the pelvis an aperture sufficiently large for the issue of matters from the genital organs; not large enough to interfere with the proper support of the body. Besides these things there is a *succession of cushions*, to regulate, at pleasure, the position of the woman, and two cranks or handles (moveable or fixed, at pleasure), by which the woman supports herself while undergoing the contractile efforts of the womb. If I remember right, the elevated portion at the head of the bed did not admit of graduation; I may be mistaken in this, however, as it would seem that it *should* and might easily.

The splendor of some of the buildings now devoted to hospitals in Italy is quite striking. In point of architecture, and, often, internal decoration, there probably is nothing of the same destination that equals them.

At Venice, the building known as the Scuola di San Marco is now a portion of an immense hospital, the remainder of which is formed out of the adjoining convent of the Dominican and the Franciscan friars. It is really a *long walk* through this enormous building, which contains a handsome church and a smaller chapel also, within its walls. The arrangement and planning of the wards, beds, and appurtenances, is most excellent—plenty of air, and evidently great attention to cleanliness. The lunatic wards are in excellent condition—and so, as to comfort and attention, are the unfortunate inmates. This, I believe, was one of the first institutions to abandon the restraint system. We entered the large room which contains the greater number of lunatics. Very many were working in one way or another; some came and gaz-

ed upon us, with not an *idiot*, but a *mischievous leer* (this was the female ward); only one was at all violent. She rushed towards us from the farther extremity of the hall, uttering a torrent of words in a loud tone, and brandishing her *knitting work*! I looked sharp at the needles, but she, on arriving where we stood, stopped a moment—and then darted to a seat, where she continued scolding. But the physician of the establishment soon entered, and going to her, took her hands in his, and saying a few words she was quiet as if by magic. Some two or three more were wild, but not violent; every part of this establishment seems admirably managed.

In the sick wards there is suspended over the head of each bed the name of the disease, under which the individual is laboring.\* I noticed a goodly crop of *bronchitis* many cases of pericarditis, several also of intermittent fever: in the surgical wards one case of spina bifida; abscess, fracture, &c. At the head of each bed also hangs a ticket, containing name, profession, age, dates symptoms, internal and external remedies, &c. &c.

I should think that more medicine was given internally in the Italian hospitals than in the French—a supposition which may have some slight confirmation in the different *size* of the *spaces* allotted to external and internal remedies in the ticket alluded to. A very formidable, but exceedingly good-looking, apothecary's shop is located, sentinel-like, near the entrance to the wards. The remark above made in reference to the finish and ornament of some of the Italian hospitals, applies in its full extent in this case; an author, speaking of the building, says—"The external architecture of its elevation is singularly fanciful and elegant; Byzantine richness blending itself with the grace of classical architecture, combinations defying all rules, but productive of a most magical effect. The carved work of the ceilings is, in many of the rooms, peculiarly beautiful; the contrast and effect are singular and striking in glancing from the rich and varied ornaments above and around, to the pale countenances and paraphernalia of the sufferers stretched beneath."

At Milan, the "Ospedale Maggiore" is a noble establishment; a donation of the site of an ancient palace by Francesco Sforza in 1456 was its commencement. The front is 800 feet in length; the writer of Murray's Guide Book speaks of the Gothic portion of the building as "magnificent." Besides this fine institution, there are the Lazaretto and the Ospizio Trivulzi, the latter styled by the same writer a "noble monument of pious charity," containing 600 inmates, all over 70 years of age, well fed and clothed and permitted once a week to visit their friends." The Lazaretto, now disused, except in some portions for small shops, is in the form of a square cloister *one quarter of a mile* on each side in length; in the central square is a chapel. A fine crop of hay had been made and lay spread upon the turf; men and women in some parts of the square still turning it. The long cloistered arcades are quite striking. The Trivulzi I have not visited.

At Genoa, the great Poor House is well worth seeing; clean and well administered; its church, Santa Maria, contains an invaluable work of Michael Angelo. Beside this, are the Ospedale del Pammatore, and the Deaf and Dumb Institution: the former again confirming the remark made in regard to the ornate appearance of many of these institutions.

## CHEMISTRY,

### OZONE.

1. *Ozone*.—For some years, Prof. Schonbein, of Basle, has been engaged in experimenting on the cause of the peculiar odor developed by electricity; during the electrolysis of water, the oxygen given off is mixed with a small quantity of a volatile odorous substance; to this he has given the name of *ozone*. For some particulars of its production, see the *American Journal of Science*, Vols. xli and xlix.†

This substance he supposed to be a halogen body, analogous in its reactions and affinities to chlorine and bromine, and indeed it has many points of resemblance; it destroys vegetable colors,

\*This I have not noticed elsewhere in Italy.

†See also, Schonbein Archives de l'Electricité No. 15. Tom. iv. pp. 333–454; No. 17, Tom. v. p. 11–23, and No. 18, Tom. v. p. 337–342. Marignac, 17. v. p. 5–11; besides other authorities quoted farther.

decomposes bromide, iodide and ferro-cyanide of potassium, and acts upon the metals.

He regarded it as constituting the base of nitrogen, which he supposed to be a compound of ozone and hydrogen, analogous to the chloride of hydrogen. He supposed it to be a secondary product of the electrolysis, and formed by the reaction of the nascent oxygen on the nitrogen of the atmospheric air dissolved in the water.

M. Schonbein was subsequently enabled to produce this body by purely chemical means; when phosphorus, at ordinary temperatures, is exposed to moist air, ozone is always generated.\* This reaction is best observed by introducing into a large glass vessel, a piece of phosphorus one or two inches long, and sufficient water to partially cover it; the whole may now be exposed for 24 hours to a temperature of 68° to 75° F., when the air will be found very highly charged with ozone.

From its supposed nature as the base of nitrogen, this body has attracted considerable attention from chemists, and has been made the subject of much experimental research, as well as a great deal of theorising and speculation. It has been particularly examined by M. Marignac and Mr. Williamson.

The former chemist has shown that ozone is generated by the electrolysis of dilute sulphuric acid, independently of the presence of nitrogen; it being produced equally well in a vessel exhausted of air.† M. Marignac also instituted a series of experiments on ozone produced by chemical means; air was made to pass through a long tube containing phosphorus, and thus it became sufficiently charged with ozone for the purposes of experiment. He found that perfectly dry air is incapable of generating this substance, and also that air freed from oxygen by passing over ignited copper, produced no trace of it; but if a very little oxygen (insufficient to support combustion for a moment,) is present, ozone is produced with the same ease as in ordinary air. Pure oxygen, nitrogen or hydrogen alone, do not produce it, but if a small quantity of oxygen is mixed with hydrogen, ozone is formed with great rapidity, on passing the mixture over phosphorus.

Air impregnated with ozone loses entirely its characteristic properties, if passed through a tube heated between 570° and 750° F. This principle is absorbed by water, but not by oil of vitriol, ammonia or chloride of calcium. If the air is passed through a solution of iodide of potassium, it loses its odor, and the salt is decomposed with the liberation of free iodine. Some iodate of potassa is also found in the solution.

Ozone is readily absorbed by the metals. If the ozonized air is passed through a glass tube containing silver in a porous form, (from the decomposition of the acetate by heat,) it loses its peculiar odor, and the silver is converted into a blackish brown substance which when thrown into water, gives off oxygen gas with effervescence, and the remaining substance has all the characters of ordinary oxide of silver.

These curious results, many of which were previously obtained by Schonbein, prove that nitrogen is not concerned in the formation of this substance, and seem to show that these peculiar reactions are owing to oxygen in a loosely combined state.

Mr. Williamson's experiments confirm these observations, and go to prove that it is a compound of oxygen and hydrogen. In his experiments, the oxygen from the electrolysis of dilute sulphuric acid, was thoroughly dried by passing it over chloride of calcium; the gas thus dried, was passed through a glass tube containing metallic copper, and heated to redness; water was formed abundantly and condensed in the cool part of the tube, and this formation of water continued as long as the process lasted. From this it appears that water is formed by the reducing power of the metal. To remove all sources of error, the oxygen was evolved from the electrolysis of a solution of sulphate of copper, in whose decomposition no hydrogen is set free, the oxygen thus obtained possessed strongly the peculiar ozone odor. It was now passed over copper (obtained by decomposing the oxide by carbo-

nic oxide,) heated to redness, and water was immediately formed as in the last experiment.

In subsequent experiments, the ozonized oxygen previously dried, was passed through a glass tube heated to redness, by which the peculiar odor was completely destroyed: to this an accurately weighed chloride of calcium tube was fixed, after the gas had been passed a short time, the tube was found to have increased perceptibly in weight.

When the ozonized oxygen is passed through water, it communicates to it the peculiar odor. If this solution is added to a mixture of starch paste and iodide of potassium, a blue color is produced; and when mixed with ferro-cyanide of potassium, this salt gives a blue precipitate with proto-salts of iron. Solutions of lime and baryta give, with a solution of ozone, a heavy and apparently crystalline precipitate.

Mr. Williamson states as the result of his experiments, that ozone is not produced by the action of air on phosphorus, but we cannot admit this, for several reasons. The results of M. Marignac were obtained by the substance formed in this manner, and many of the results obtained by him are precisely the same with those of Mr. Williamson; and these as well as others obtained, cannot be referred to the action of phosphoric acid.

Mr. Williamson's arrangement, which consisted of a tube containing asbestos, on which the phosphorus was deposited by sublimation, was such as completely to defeat the object in view; for although ozone is generated by the action of phosphorus on air, yet it is itself absorbed or decomposed, when brought in contact with a large surface of phosphorus; and this result would especially occur when the phosphorus was heated, as it must have been from the exposure of so large a surface. Our own observations also have shown that something distinct from phosphoric or phosphorous acids, is generated by this process, for after the air enclosed in the globe had been thoroughly agitated and allowed to stand some hours, in contact with a mixture of carbonate of lime and water, it still retained the peculiar odor, and the power of decomposing iodide and ferro-cyanide of potassium.

The conclusion which these gentlemen deduced from their experiments was, that the substance which prevents these curious reactions is a compound of oxygen and hydrogen, containing more oxygen than water, and perhaps isomeric with the deut-oxide of Thenard. This view was certainly consonant with their results, and indeed they appeared to be inexplicable by any other hypothesis. The oxidation of silver to such a degree, and the conversion of iodide of potassium into iodate of potassa, evince the existence of oxygen in a feebly combined and very active state, while the formation of water by passing it through an ignited glass tube or over heated copper, show that hydrogen is also present. More recently, however, we have a memoir on this subject by M.M. Louis Rivier, and Professor L.R. de Fellenberg,\* which contains many interesting facts.

In their experiments they passed for two hours a series of electrical sparks through a glass vessel containing humid air, and whose sides were moistened with a solution of carbonate of potassa. The air acquired strongly the peculiar odor of ozone; which, by standing some time, disappeared, and the liquid was found to contain nitrate of potassa. They then proceeded to examine the ozone produced by chemical means. The arrangement consisted of a tube about three feet in length, in which were placed several pieces of phosphorus moistened with a little distilled water: to one end was adapted a recurved tube, dipping in a bottle which contained milk of lime; by means of an aspirator connected with the other tube; the air was made to pass slowly over the phosphorus and through the milk of lime, at the rate of 10 litres in 24 hours. The ozone thus formed was absorbed by the alkaline fluid, which after 24 hours was removed. After filtration, it was evaporated to dryness, redissolved in distilled water, decomposed by carbonate of ammonia, and the resulting salt again decomposed by a solution of strontia, when it afforded a salt in beautiful needles, which gave the following reactions: with sulphuric acid and brucine, a reddish yellow, and with narcotine a red color; it destroyed the color of sulphate of indigo; rendered brownish-black the protosulphate of iron; its solution in water with pure hydrochloric acid, readily dissolved gold leaf, and from the solution, chloride of tin threw down the purple precipitate of Cassius; some of the salt mixed with bisulphate of potassa, and heated in a glass tube, gave off abundant red vapors, which promptly blanched indigo paper held in the tube.

\* The peculiar odor of phosphorus is probably due entirely to the formation of this new substance.

† In one experiment, water acidulated by sulphuric acid was decomposed in a vessel, from which the air was completely excluded. After the decomposition had been continued for two or three days, and when more than one fourth of the liquid had been driven off in the form of gas, the oxygen was found to be as strongly impregnated with ozone as at the commencement of the experiment.

They next proceeded to distill a portion of the acid liquor produced by the slow oxydation of phosphorus; a very gentle heat was applied, and about one third of the liquor distilled over; the vapors were received in a solution of strontian; at the close of the operation, this had lost its alkaline reaction; a little more strontian was added, and the whole evaporated to dryness: by re-solution and crystallization, a quantity of salt in fine crystals was obtained, weighing about one and a half grains. This salt gave the same reactions as that above, which must be regarded as decisive evidence of nitric acid; the test with gold, and above all the red fumes evolved by the mixture with bisulphate of potassa, place its nature beyond all doubt.

From these experiments they concluded, that the reactions attributed to ozone, are in reality due to the presence of a small portion of nitrous acid; and they found that air mixed with a very small portion of nitrous gas, acquired an odor similar to that of ozone, blanching turmeric, dahlia and indigo papers, and presenting generally the same phenomena as ozonized air. They supposed that the acid first formed is the nitrous, as pure nitric acid when very much diluted, does not render blue a mixture of starch and iodide of potassium, which reaction is readily produced by the nitrous acid; and that the nitrites formed are converted into nitrates by the absorption of oxygen during the subsequent evaporation.

These experiments seemed to show, that a close relation certainly exists between nitric acid and ozone, and many chemists were disposed to regard them as identical; but the late researches of M. Schonbein\* have cleared up to some extent the difficulties which seemed to envelop the subject.

M. Schonbein has suggested, that when water acts on hypo-nitric acid, there is formed besides hydrated nitric acid, a compound having the formula  $\text{NO}_2 + \text{HO}_2$ , and which he calls the peroxide of azote and hydrogen. It is to the presence of this in the solution of hypo-nitric acid, that we are to attribute its remarkable powers of oxydation. The same reaction takes place when the hypo-nitric acid is introduced into a flask of moist air.

If having ozonized the air of a jar by phosphorus, we suspend in it a piece of carbonate of ammonia, till the air acquires the property of immediately blueing litmus paper, we shall find that it still retains all the properties of ozone—the peculiar odor, the power of decomposing iodide and ferro-cyanide of potassium. This body can then exist in an atmosphere of carbonate of ammonia, and also, as is found by experiment, in one of pure ammonia.

If we take a portion of hypo-nitric or fuming nitric, and dilute it with water till it loses its color, and having poured a small portion of it into a flask, suspend in the air of the flask a piece of carbonate of ammonia, till the air acquires an alkaline reaction, we shall find that it is capable of decomposing iodide of potassium, and blanching indigo paper, and even of converting a crystal of ferro-cyanide of potassium into the ferro-cyanide in the course of twenty-four hours; in fact it possesses all the properties of ordinary ozonized air. The circumstances under which these reactions are exhibited, do not admit of the view that the oxidizing agent is any acid of nitrogen, and hence M. Schonbein concludes that there exists the compound  $\text{NO}_2 + \text{HO}_2$ .

An interesting fact bearing on this, is the manner in which the mixture of hypo-nitric acid decomposes ferro cyanide of potassium. If we mix in a tube closed at one end, a solution of the ferro-cyanide with an acid solution prepared as above described, and then invert the tube in water, a violent disengagement of gas takes place, which is found to be pure nitric oxide, and the solution contains nitrate of potassa and the ferri-cyanide.

This decomposition cannot be attributed to the nitric acid contained in the mixture, for we find that pure nitric acid if slightly diluted, does not decompose the salt, as neither the hypo-nitric nor nitrous acids can exist in the presence of water.

It is well known that ozone decomposes the iodide of potassium, liberating iodine. If to a solution of the iodide, we add the acid liquor above mentioned, an abundant escape of nitric oxide takes place, while iodine is precipitated and nitrate of potassa forms. Pure nitric when diluted with the same portion of water as in the acid mixture, does not decompose pure iodide of potassium.

The results of Fellenberg are certainly possessed of great interest. The production of nitric acid from the elements of the atmosphere by electricity, was long since noticed by Cavendish,

and is a well established fact; but that this acid is formed by the action of phosphorus on air, is a new and highly interesting result. That this highly oxydized body should be generated in the presence of phosphorus, seems at first paradoxical, and we can only refer it to that mysterious force, which Berzelius has named *catalysis*, and which is in fact only a manifestation of the law announced by La Place, that "a molecule set in motion by any power, can impart its own motion to another molecule with which it may be in contact." In other words, the phosphorus, while in the act of oxydation, communicates its own peculiar state to the nitrogen, which is thus enabled to combine with the oxygen and generate nitrous acid. This certainly affords us a very striking illustration of that law, and we think that this phenomenon is incapable of explanation on any other principle. M. Marignac has suggested that electricity generated by the oxydation of the phosphorus may be the cause. This however seems improbable, as it has not been shown that it is excited during the process, and the theory rests on the idea that all chemical action is attended by a development of electricity. But when we consider that our most powerful electrical discharges can generate comparatively very minute quantities of ozone, the amount of electricity that can be supposed, under any circumstances, to be generated by the oxydation of a small piece of phosphorus, seems utterly inadequate to the result.

The experiments of Fellenberg, it will be seen, do not really militate against the existence of ozone; they have only shown that in the ordinary processes by which ozone is generated, nitric acid is also produced; and the similarity between the reactions of air mixed with a little nitric oxide, (by which hypo-nitric acid is generated,) and ozonized air, is readily explained by the researches of Schonbein.

In explanation of the production of nitric acid and ozone by the slow oxydation of phosphorus, we may suppose that nitrous or hypo-nitric acid is generated in the manner before suggested, which, by the action of aqueous vapor in the atmosphere, is converted into nitric acid, and the hypothetical peroxide of azote and hydrogen.

Although ozone produced by chemical means is probably always associated with nitric oxide, yet we cannot avoid the conclusion, apparently overlooked by Schonbein, that the ozone generated under certain circumstances, by the agency of electricity, (as in the experiments of Marignac above mentioned,) must be independent of, and free from nitric oxide. This has the odor and all the other properties of ozone produced by chemical means, and it is difficult to suppose that there can be two compounds, one of which is  $\text{HO}_2$  and the other  $\text{NO}_2 + \text{HO}_2$ , identical in all their properties, and we are hence led to conclude, that, although such a compound may exist in the mixture of hypo-nitric acid and water, it does not exist in the ozonized air, whether this impregnation is effected by the action of phosphorus, or by agitation with the acid solution in question.

M. Marignac and de la Rive\* have recently obtained some results that seem to prove that water is not essential to the production of ozone. They find that if a series of electrical sparks are passed through oxygen, however carefully dried, ozone is formed, and they suggest that ozone may be nothing more than oxygen, to which "a peculiar state of chemical activity," is given by the influence of the electric current. M. Schonbein, however, regards the formation of ozone as a certain indication of the presence of water in the gas, but in quantities so minute as to escape the action of the ordinary hygrometric substances. The gentlemen above quoted however, find that the oxygen evolved from very pure chlorate of potassa previously fused, gave ozone, when exposed to the action of the electric spark, as abundantly and rapidly as moist oxygen.

M. Schonbein's hypothesis, consequently, rests on the assumption that the gas obtained as above and apparently perfectly dry, still contains water. The suggestion that it is modified oxygen, is one of great interest, and derives some weight from the recently observed facts regarding the allotropism of elementary bodies; and particularly the late researches of Draper on the allotropic condition of chlorine. If oxygen, by the influence of the electric fluid assumes a state of exalted energy and chemical affinity, we are furnished with a key to the *modus operandi* of electricity, in causing many chemical combinations. But in a science which is based on experimental knowledge, we must carefully avoid deducing our conclusion from isolated experiments or theoretical

\*Archives de l'Electricité, No. 20, Tome v. 1845.

\*Archives de l'Electricité, No. 18, Tome v. 1845.

generalizations, however elegant those deductions may appear; and in the case of ozone, very careful investigations, performed with the most rigid exactness, are required before we can admit such a great and interesting conclusion.

At present, then, we agree with Prof. Schonbein, that the great weight of evidence rests with the view that it is a deutoxide of hydrogen; which, although differing from the deutoxide of oxygen, has yet many striking points of resemblance; both bleach powerfully, both transform many protoxides to peroxides, (as, for example, protoxides of calcium and barium,) both transform sulphurous to sulphuric acids, and are decomposed by heat and many organic substances.

With regard to the late results of Marignac and de la Rive, M. Schonbein remarks: 1. Ozone has so strong an odor, that extremely small quantities are capable of affecting the olfactory nerves. 2. Quantities of ozone by far too minute to be ascertained by weight, still perceptibly color the test paste.

From this it follows that a quantity of aqueous vapor, too small to be sensible by our most delicate hygroscopic tests, may generate so much ozone as shall be sensible both to the smell and the iodine test.

We have thus endeavoured to give a brief abstract of the present state of our knowledge with regard to this subject, and would refer the reader who wishes to examine the subject more thoroughly, to the authorities already quoted. T. S. HUNT.

## THE British American Journal.

MONTREAL, AUGUST 1, 1846.

### AUGMENTATION OF LICENSING BOARDS FOR THE PROVINCE.

Three months have now elapsed since our remarks against an augmentation of licensing boards for the Province were submitted to the profession. At that period the Provincial Legislature was in session, and we have some good grounds for believing that our observations tended, in no small degree, to that result which ended in the arrest of the bill until the deliberate opinion of the profession at large was heard on a matter of such vital importance to their interests. With the single exception of an anonymous scribbler in one of the French Canadian newspapers, who, from *interested motives*, made a miserable attempt to pervert the plain meaning and spirit of our remarks to subserve his own ends, not one sentence condemnatory of the position which we assumed and upheld has been publicly expressed. Our remarks were elicited from a high sense of what we conceived to be the *true interests* of the profession, and we called upon that profession, whose best interests we conceived we were supporting, to sustain us in them. During the interval which has elapsed, what has that profession done in the matter? Is this question to be permitted to lie over until the ensuing session of Parliament, and action taken on it only when the bill again comes before the House? Or will the profession only awake from its lethargic slumber when it finds itself in a false position as to its future character, from the existence of a serious evil which a little timely prudence and careful foresight might have obviated? These are questions which each

member of the profession should himself individually answer; and, having done so, take such steps in the premises as the nature of the reflections which they may engender may clearly indicate.

From private letters which we have received from various quarters, we have reason to know that our remarks have met with a very general approval; and it is the more extraordinary, that this general concurrence in sentiment should have been followed by such complete apathy in acting, especially when we consider that although the measure be one of general importance, each *individual* member of the profession becomes individually affected. This indifference, for we believe it to be only apparent, may be explained by the often quoted, but still too frequently true, adage, that what is every body's business is usually nobody's; but we can hardly allow ourselves to think that, in a matter of such moment, some minds will not be found who will step forth and become prominent in the movement. There are few subjects of medical polity which could so well or deservedly receive attention at the hands of the medical societies of the Province. These are the parties who ought first to move in the matter, and it is to them that the profession at large should in the first instance turn for the first expression of opinion.

We regard the position of the profession in this Province, at the present moment, as one of ominous import, for its future weal or woe. It is at present in what may, with perfect accuracy, be termed, a transition state, and its future character and respectability most manifestly depend on its truthfulness to itself. A Bill, affecting its interests in every point of view, will undoubtedly become, at an early day, a legislative enactment, and it remains for the profession to have, or not to have, incorporated as a part of it, clauses which may render every educational restriction a cypher or a dead letter, in exact accordance with their own energy or inactivity in denouncing or permitting any such alteration, as was attempted in the one proposed at the last session.

*The Credit System in Medical Schools.*—The following, from the *Western Lancet*, with the observations of the *New Orleans Medical and Surgical Journal*, will, we think, be found to apply to other latitudes than those of New Orleans or Lexington. We therefore copy it:

"We are fully satisfied that an influence extremely detrimental to the profession has grown out of the custom of granting credit in medical schools. The object in adopting this course is *to secure a large class, perhaps for the purpose of out-numbering a rival school*; and the consequence is, that all who present themselves, wholly irrespective of merit or qualifications, are duly enrolled as medical students, and their names go out to the world, swelling the catalogue of some highly flourishing school.



The success of such pupils operates as an incentive to others to engage in the study, seeing that it is so cheap; and many a one, who either has no occupation, or who may be too indolent to follow a mechanical pursuit, forthwith doffs his humbler business, and unites in swelling the Æsculapian throng. In this way the profession becomes thronged with practitioners of every grade, and all parties, even those favoured with the gratuity, are ultimately injured. It is true, some meritorious men will be found unable to pay; but there can be no doubt, that the indiscriminate admission of pupils into medical schools is not only an act of injustice to those who do pay, but also tends directly to degrade the profession. We are gratified, therefore, to state, that the Transylvania Medical School has determined, by formal resolution, to abolish, *entirely*, the credit system: and these resolutions will be strictly adhered to. We hope all other schools will manifest a similar regard for the interests of the profession, and follow an example so worthy of imitation."—*Western Lancet*.

"In this hope we fully concur. The course adopted by some schools in this country is not only undignified, but highly injurious to the profession; and must ultimately lead to their own disgrace and downfall. *In order to swell their numbers, for of numbers is their only boast, they will take any who offer.* The great misfortune, too, is, that pecuniary deficiency is often not the most serious one that stands in the way of these aspirants, in their attempts to obtain admission into schools where less importance is attached to numbers. We have known ignorant mechanics, who could with difficulty write their own names, to turn steam doctors; and, after spending their hard-earned pittance, in endeavouring to carry out the tricks of fraud and ignorance, they determined to obtain a backer in some medical school. This they may do, 'without money and without price,' and we may add, without labour, study, or any other qualification: it is enough that they have honoured the learned professors with the light of their countenances. They are even offered advantages over the better class of students; for they have only to apply to the Dean, who registers them as Mr. —, of —, Practitioner; and, after four months of attendance, he goes forth, without fail, to come out under new colours. In this way our country is now being flooded with men, whose only title to respectability of any kind is in the parchment issued by schools which are certainly jeopardizing their own claims to the respect of the profession generally."—*New Orleans Medical and Surgical Journal*, July.

*Statistics of Schools of Medicine in the United States.*—The following items of intelligence from Medical Institutions in the United States will be found to be not devoid of interest. The table which we have given below, has been compiled from those furnished by our esteemed contemporaries, the New York Journal of Medicine, and the Buffalo Medical Journal, and we believe that the list of schools is as complete as it can be rendered.

	Class 1845-6.	Number of Graduates
University of Pennsylvania.....	471	168
Jefferson Medical College, Philadelphia..	459	170
University of the City of New York....	425	131
College of Physicians and Surgeons, New York.....	200	38
Geneva Medical College, New York....	178	39
Albany Medical College, New York....	115	42
Harvard University, Boston, Mass.....	159	31
Berkshire Medical Institution, Mass.....	142	35
Castleton Medical College.....	140	36
Yale Medical College, New Haven, Conn.	53	19
Cleveland Medical College, Ohio.....	195	52
Willoughby Medical College, Ohio.....	164	40
Vermont Medical College, Woodstock...	—	24
Ohio Medical College, Cincinnati.....	195	46
Transylvania Medical College, Lexington, Ky.....	171	64
Louisville Medical Institute.....	345	43
University of Maryland, Baltimore..	147	40
Bowdoin Medical College, Brunswick, Maine.....	73	19
Rush Medical College, Chicago, Ill.....	50	9
Indiana Medical College, LaPorte.....	81	18
Medical College of Louisiana, New Orleans.....	103	20
Medical College of Georgia, Augusta....	112	15
Missouri University, St. Louis.....	92	29
Kemper College, St. Louis.....	—	11
Western Reserve College.....	160	—
Pennsylvania Medical College.....	—	36
Philadelphia College of Pharmacy...	—	16
College of Dental Surgery, Baltimore...	—	9

*Caledonia Springs.*—This fashionable Spa appears still, and deservedly, to maintain its claims to general favour. The beneficial effects which a course of the mineral waters is capable of inducing in some diseases have been too generally recognised to admit of dispute at present. The cases which appear to have most readily yielded to a treatment by them, are chronic rheumatism, some forms of dyspepsia, and some cutaneous affections. We have seen some cases of secondary syphilis decidedly benefitted, the curative agents being, in all probability, the iodine and the sulphuretted hydrogen, which, according to Chilton's analysis, are met with in all the springs, of which there are three kinds. A fourth spring was discovered a few years ago, and was analytically examined by Prof. Williamson, of Queen's College, Kingston. It has proved itself to be a strong saline one, containing both iodine and bromine. It is probable that to the same active agents must be attributed the benefits derived in the other diseases to which we have thus generally adverted, conjoined with the change of air, more restricted and moderate diet, and the other concomitants usually met with at watering places. A physician (Dr. Stirling) is in daily attendance at the Springs, whose advice should be taken by invalids, not only as to the proper mineral water to use, but also to the proper regiminal treatment to be adopted.



Carbonate of Lime,	.	.	.	.	2,00
Do.       Magnesia,	.	.	.	.	5,12
Do.       Soda,	.	.	.	.	,82
Iodide of Sodium,	.	.	.	.	,38
Vegetable Extract,	.	.	.	.	,61
					<hr/>
Grains,	.	.	.	.	120,44

*By James Williamson, Esq., Professor of Chemistry, Queen's College, Kingston.*

In Imperial Pint, . . . .	Grains, 123,04
Carbonate of Magnesia, . . . .	7,437
Carbonate of Lime, . . . .	2,975
Sulphate of Lime, . . . .	1,788
Chloride of Sodium, . . . .	98,925
Chloride of Magnesium, . . . .	11,916
Iodide of Sodium, . . . . 3 in a gallon,	
Bromide of Sodium, . . . . 1,7 in a gallon,	
Grains, . . . .	<u>123,04</u>

Gases, . { Light Carburetted Hydrogen,  
Carbonic Acid Gas,  
Sulphuretted Hydrogen.

*By James R. Chilton, M.D., New York.*

Chloride of Sodium,	.	.	.	89,75
Do. Magnesium,	.	.	.	1,63
Do. Potassium,	.	.	.	,55
Sulphate of Lime,	.	.	.	1,47
Carbonate of Lime,	.	.	.	2,40
Do. Magnesia,	.	.	.	2,50
Do. Soda,	.	.	.	1,00
Do. Iron,	.	.	.	,03
Iodide of Sodium,	.	.	.	,35
Resin, a vegetable extract,	.	.	.	,52
Grains,	.	.	.	100,20

Gases, . { Carbonic Acid,  
Sulphuretted Hydrogen,  
Nitrogen.

*By James R. Chilton, M.D., New York.*

Chloride of Sodium,	.	.	.	60,48
Do. Magnesium,	.	.	.	,66
Sulphate of Lime,	.	.	.	,82
Carbonate of Lime,	.	.	.	,42
Do. Magnesia,	.	.	.	3,60
Iodide,	.	.	.	
Vegetable Extract, &c.	.	.	.	,30
				<hr/>
Grains,	.	.	.	66,28

Gases, {	Carbonic Acid,	3,20
	Sulphuretted Hydrogen,	6,14
		<hr/> 9.34 cub. inches.

*By James R. Chilton, M.D., New York.*

Chloride of Sodium,	.	.	.	.	108,22
Do. Magnesium,	.	.	.	.	2,01
Sulphate of Lime,	.	.	.	.	1,28

Light Carburetted Hydrogen,	82,90
Nitrogen,	6,00
Oxygen,	1,56
Sulphuretted Hydrogen,	4,00
Carbonic Acid,	5,51

**Cubic inches, . . . 99,97**

*Appointment of Members to the Medical Board.*—

His Excellency the Governor General has been pleased to associate upon the Board of Medical Examiners for the District of Montreal, under the Ordinance 28, Geo. III., cap. 8, the following gentlemen, viz. :—

Wolfred Nelson,  
Francis Badgley,  
Pierre Antoine Conefroy Munro,  
William Sutherland, and  
Jean Gaspard Bibaud, Esquires, Doctors of Medicine.  
—*Canada Gazette*, July 26.

*Natural History Society.*—At the annual meeting of this Society, held at its House on May 18th ult., the following gentlemen were elected officers for the ensuing year :—

President.....James Crawford M.D.  
1st. Vice President.....G. W. Campbell, M.D.  
2d. " " .....A. H. David, M.D.  
3rd. " " .....S. C. Sewell, M.D.  
Corresponding Secretary.....W. Fraser, M.D.  
Recording Secretary.....C. H. Payne, M.D.  
Treasurer.....A. LaRocque, Esq.  
Cabinet keeper and Librarian....W. M. B. Hartley, Esq.

Council. { John Ostell, Esq.  
J. H. Joseph, Esq.  
A. F. Holmes, M.D.  
M. McCulloch, M.D.  
John Glass, Esq.

Library Committee. { Rev. W. T. Leach, A.M.  
A. F. Holmes, M.D.  
J. H. Joseph, Esq.  
J. Logan, Esq.  
W. Edmonstone, Esq.

\* There is an evident error here. Oxygen and Sulphuretted Hydrogen cannot co-exist without a decomposition of the latter by the former.—Ed.

**Notice to Subscribers.**—Frequent complaints have reached us of the irregular delivery of the *Journal* at the residences of our city subscribers. In some instances omissions have taken place for two or three numbers consecutively. Anxious to avoid what is a source of great annoyance to all parties, we have placed the distribution of the copies for subscribers in the city in the hands of another party; and, should irregularities in this respect hereafter occur, we should feel obliged by a prompt intimation of the circumstance. We have heard of no complaints, of late, from country subscribers.

#### RETURN OF SICK IN THE MARINE HOSPITAL, QUEBEC, FOR THE MONTHS OF MAY & JUNE, 1846.

JOS. PAINGHAUD, Esq., M.D., Physician.  
JAMES DOUGLAS, Esq., Surgeon.

Remaining in Hospital, on May 1st, . . . . .	33
Admitted during the Month of May, . . . . .	195
" " " June, . . . . .	345
	540
Total treated, . . . . .	573
Of these discharged, . . . . .	401
Died, . . . . .	14
Remaining, . . . . .	158
	573

#### DISEASES AND ACCIDENTS.

Febris, . . . . .	92	Carcenoma, . . . . .	1
Rubeola, . . . . .	8	Syphilis, . . . . .	63
Varicella, . . . . .	13	Orchitis, . . . . .	9
Scarlatina, . . . . .	1	Stricture Urethrae, . . . . .	6
Erysipelas, . . . . .	1	Fractura, . . . . .	23
Pneumonia, . . . . .	8	Contusio, . . . . .	37
Bronchitis, . . . . .	5	Vulnus, . . . . .	14
Catarrhus, . . . . .	12	Abscessus, . . . . .	10
Hepatitis, . . . . .	2	Ulcus, . . . . .	24
Dyspepsia, . . . . .	4	Ambustio, . . . . .	6
Rheumatismus, . . . . .	80	Gelatio, . . . . .	1
Dysentaria, . . . . .	8	Scrofula, . . . . .	2
Diarrhoea, . . . . .	28	Paronychia, . . . . .	5
Cholera Sporadica, . . . . .	7	Periostitis, . . . . .	3
Hydrops, . . . . .	3	Carica, . . . . .	2
Cynanche, . . . . .	8	Hernia, . . . . .	1
Icterus, . . . . .	2	Furunculi, . . . . .	7
Eucephalitis, . . . . .	1	Parturitio, . . . . .	5
Humphligia, . . . . .	1	Hæmorrhagia, . . . . .	1
Ophthalmia, . . . . .	1	Morbi Alicni, . . . . .	32
Gritia, . . . . .	1		
Subluxatio, . . . . .	2		
		Total, . . . . .	540

J. E. D. LANDRY, House Surgeon.

Quebec, July 6, 1846.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FROM 27TH APRIL TO 1ST JULY, 1846.

Dr. HALL, } Attending Physicians.  
Dr. BRUNEAU, }

Remained, . . . . .	72	Discharged cured, . . . . .	267
Admitted, . . . . .	328	Died, . . . . .	13
		Remaining, . . . . .	120
Total treated, . . . . .	400		
		Total, . . . . .	400
IN-DOOR PATIENTS.		OUT-DOOR PATIENTS.	
Belonging to Montreal, . . . . .	167	Belonging to Montreal, . . . . .	504
Immigrants, . . . . .	125	Immigrants, . . . . .	90
Seamen, . . . . .	36	Seamen, . . . . .	9
Total, . . . . .	328	Total, . . . . .	603

Males, . . . . .	211	Males, . . . . .	312
Females, . . . . .	117	Females, . . . . .	291
Total, . . . . .	328	Total, . . . . .	603

#### DISEASES AND ACCIDENTS.

Abscessus, . . . . .	5	Iritis, . . . . .	2
Ambustio, . . . . .	3	Incontinentia Urinae, . . . . .	1
Amemorrhœa, . . . . .	7	Legostoma, . . . . .	1
Apoplexy, . . . . .	1	Lumber Abocœ, . . . . .	1
Ascites, . . . . .	1	Lupus Exedens, . . . . .	1
Bronchitis, . . . . .	19	Mania, . . . . .	3
Bubo, . . . . .	2	Mastitis, . . . . .	1
Catarrhus Chronicus, . . . . .	1	Menorrhagia, . . . . .	2
Cholera (sporadica), . . . . .	2	Morbus Cordia, . . . . .	1
Colica, . . . . .	2	Oedema, . . . . .	3
Conjunctivitis, . . . . .	2	Ophthalmia, . . . . .	2
Contusio, . . . . .	18	Orchitis, . . . . .	1
Coup de Soliel, . . . . .	1	Otorrhœa, . . . . .	1
Cynanche, . . . . .	1	Paralysis, . . . . .	1
Debilitas, . . . . .	2	Paronychia, . . . . .	2
Delirium Tremens, . . . . .	7	Periostitis, . . . . .	1
Diarrhoea, . . . . .	16	Phthisis, . . . . .	3
Dislocatio, . . . . .	2	Pleuritis, . . . . .	1
Dyspepsia, . . . . .	5	Pleurodynia, . . . . .	2
Dysuria, . . . . .	1	Pneumonia, . . . . .	6
Eczema, . . . . .	2	Pyorrhea, . . . . .	1
Enteritis, . . . . .	1	Prolapsus Uteri, . . . . .	1
Epilepsia, . . . . .	2	Psora, . . . . .	3
Erysipelas, . . . . .	4	Relaxation of Uterus, . . . . .	1
Erythema, . . . . .	1	Rheumatismus, . . . . .	24
Febris Com. Cont., . . . . .	76	Rupia, . . . . .	1
" Typhus, . . . . .	13	Scarlatina, . . . . .	3
" Intermittens, . . . . .	1	Scorbutus, . . . . .	1
Fractura, . . . . .	2	Scrofula, . . . . .	2
Furunculus, . . . . .	2	Sinus (in Testicle), . . . . .	1
Gastritis, . . . . .	1	Subluxatio, . . . . .	1
Gastrodynia, . . . . .	2	Synovitis, . . . . .	2
Gonorrhœa Preputialis, . . . . .	1	Syphilis, . . . . .	15
Hæmatemesia, . . . . .	1	Stricture, . . . . .	1
Hæmorrhoids, . . . . .	1	Tonsillitis, . . . . .	1
Herpes Circinatus, . . . . .	1	Tumor, . . . . .	1
" Miliare, . . . . .	1	Ulcus, . . . . .	21
Hydrarthrus, . . . . .	1	Vulnus, . . . . .	1

Total, 328

ALEXANDER LONG, M.D., House Surgeon.

#### BOOKS, &c., RECEIVED DURING THE MONTHS OF JUNE AND JULY.

The medical Examiner, Philadelphia.—June, July.  
The New York Medical and Surgical Reporter—Nos. 17, 18, 19, and 20.  
Dublin Medical Press, May 15, 22, 29; June 3, 10, 17, 24; July 1.  
Geological Survey of Canada—Report of Progress for the year 1844.—Montreal, Lovell & Gibson, 1846.  
Wiley & Putnam's Literary News Letter—June.  
Boston Medical and Surgical Journal, Nos. 18, 19, 20, 21, 22, 23, 24, and 25.  
The Western Lancet & Medical Library, devoted to Medical and Surgical Science—Vol. v. Nos. 1 and 2.  
Southern Medical and Surgical Journal—June, July.  
St. Louis Medical & Surgical Journal.—Vol. ii. No. 1.  
The American Journal and Library of Dental Science—June.  
Kernot's Catalogue of American and English Books.—New York.  
Illustrated Botany—June.  
American Journal of the Medical Science—July.  
American Journal of Science and Arts—July.  
Buffalo Medical Journal—July.  
Southern Journal of Medicine and Pharmacy—July.  
The Medical News and Library—July.  
Missouri Medical and Surgical Journal—July.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending JUNE 30, 1846.**

DISEASES.		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Measles,.....	8	16	24	10	9	4	1	.	.	.	.	.	.	.
	Scarlatina,.....	1	1	2	.	.	1	.	.	.	.	1	.	.	.
	Small Pox,.....	2	.	2	2	.	.	.	.	.	.	.	.	.	.
	Hooping Cough,....	1	.	1	1	.	.	.	.	.	.	.	.	.	.
	Fever,.....	26	23	49	27	9	1	2	2	2	3	3	1	2	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Paralysis,.....	3	2	5	.	.	.	.	.	.	.	.	.	.	.
	Apoplexy,.....	1	.	1	.	.	.	.	.	.	.	.	.	.	.
	Inflam. of Brain,...	1	2	3	1	.	.	.	.	1	.	1	.	.	.
	Convulsions,.....	6	2	8	7	1	.	.	.	.	.	.	.	.	.
	Dentition,.....	3	5	8	3	5	.	.	.	.	.	.	.	.	.
DISEASES OF THE THORACIC VISCERA,	Consumption,.....	30	31	61	21	8	.	.	.	.	.	.	.	5	.
	Croup,.....	4	1	5	3	.	1	1	.	.	.	.	.	.	.
	Hæmorrhage,.....	1	.	1	.	.	.	.	.	.	.	1	.	.	.
	Jaundice,.....	2	1	3	1	.	.	.	.	.	.	.	.	1	1
	Cholera (sporadic),...	3	1	4	4	.	.	.	.	.	.	.	.	.	.
DISEASES OF ABDOMINAL VISCERA,	Dropsy,.....	2	1	3	.	.	.	.	.	.	1	.	1	1	.
	Diarrhœa,.....	7	4	11	5	3	1	1	.	.	.	.	.	.	1
	Inflammation,.....	18	16	34	21	8	1	1	.	1	1	1	1	.	.
	Still-born,.....	5	4	9	9	.	.	.	.	.	.	.	.	.	.
	Sudden Death,.....	.	2	2	.	.	.	.	.	.	.	.	.	2	.
OTHER DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Debility,.....	4	4	8	.	.	.	.	.	.	.	.	.	1	7
	Unknown,.....	6	.	6	6	.	.	.	.	.	.	.	.	.	.
	Accidental,.....	1	1	2	.	.	.	.	.	.	.	.	1	.	.
	Suicide,.....	2	.	2	.	.	.	.	.	1	.	.	1	.	.
	Serofula,.....	1	.	1	.	.	.	.	.	1	.	.	.	.	.
	Ab cess,.....	1	.	1	1	.	.	.	.	.	.	.	.	.	.
	Total,.....	139	117	256	122	43	9	7	3	12	15	15	7	13	10

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR JUNE, 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+63	+90	+71	+76.5	29.84	29.85	29.80	29.83	S. by E.	S. by E.	S. by E.	Fair	Fair	Fair
2,	" 72	" 87	" 70	" 79.5	29.78	29.72	29.70	29.73	S. by E.	W.	W.	Fair	Th&rn	Rain
3,	" 62	" 81	" 68	" 71.5	29.84	29.77	29.72	29.78	W.	W.	W.	Fair	Fair	Fair
4,	" 61	" 84	" 68	" 62.5	29.75	29.72	29.78	29.75	W.	W.	W.	Fair	Fair	Rain
5,	" 65	" 69	" 57	" 67.	29.60	29.69	29.60	29.63	W.	W.	W.	Fair	Rain	Rain
6,	" 60	" 74	" 55	" 67.	29.65	29.71	29.85	29.74	W.	W.	W.	Fair	Rain	Rain
7,	" 47	" 59	" 53	" 53.	30.00	30.03	30.12	30.05	W.	W.	W. S.	Fair	Rain	Rain
8,	" 45	" 70	" 55	" 57.5	30.32	30.31	30.32	30.32	W.	W.	W.	Fair	Rain	Rain
9,	" 53	" 83	" 62	" 68.	30.37	30.26	30.12	30.25	S.W. by S.	S.W. by W.	W. by S.	Fair	Fair	Fair
10,	" 60	" 85	" 67	" 72.5	30.02	29.83	29.80	29.88	W. by S.	W.	W.	Fair	Fair	Fair
11,	" 54	" 75	" 56	" 64.5	29.96	30.04	30.14	30.05	N.E. by E.	N. E.	N. E.	Fair	Fair	Fair
12,	" 53	" 78	" 58	" 65.5	30.27	30.28	30.29	30.28	N. E.	N. E.	N. E.	Fair	Fair	Fair
13,	" 60	" 81	" 65	" 70.5	30.30	30.21	30.08	30.20	N. E.	E. by S.	E. S. E.	Fair	Fair	Fair
14,	" 68	" 85	" 71	" 76.5	30.05	29.95	29.87	29.96	S. E.	S. E.	S.	Fair	Fair	Fair
15,	" 70	" 80	" 61	" 75.	29.83	29.88	29.92	29.88	S. W.	S. W.	N. E.	Fair	Th&rn	Fair
16,	" 64	" 81	" 62	" 72.5	30.00	29.98	29.95	29.98	N. E.	N. E.	E. N. E.	Fair	Fair	Fair
17,	" 62	" 86	" 70	" 74.	29.94	29.93	29.90	29.92	S. S. E.	S. W.	S. W.	Fair	Fair	Fair
18,	" 66	" 66	" 55	" 66.	29.96	29.92	29.80	29.89	N. by W.	N.	N. E.	Fair	Rain	Rain
19,	" 67	" 71	" 56	" 69.	29.70	29.63	29.59	29.64	N. E.	N. E.	N. E.	Rain	Rain	Rn&th
20,	" 52	" 60	" 51	" 56.	29.66	29.77	29.73	29.72	N.E. by E.	N. E.	N. E.	Rain	Fair	Rain
21,	" 48	" 49	" 43	" 48.5	29.70	29.72	29.75	29.72	N. E.	N. E.	N. E.	Rain	Rain	Rain
22,	" 46	" 56	" 48	" 51.	29.89	29.94	30.26	30.03	N. E.	N. E.	E. N. E.	Fair	Rain	Fair
23,	" 57	" 69	" 55	" 63.	30.17	30.14	30.07	30.13	N. E.	N.	N.	Fair	Fair	Fair
24,	" 60	" 88	" 66	" 74.	30.03	29.97	29.94	29.98	W.	N. W.	N. W.	Fair	Fair	Fair
25,	" 67	" 85	" 66	" 76.	29.98	29.93	29.93	29.95	N. W.	N. W.	N. W.	Fair	Fair	Fair
26,	" 66	" 86	" 67	" 76.	29.90	29.87	29.92	29.90	N. W.	N. E.	E. by S.	Fair	Fair	Sh'ers
27,	" 62	" 81	" 65	" 71.5	29.97	29.94	29.93	29.95	E.	E.	E.	Fair	Fair	Fair
28,	" 64	" 85	" 73	" 74.5	29.96	29.93	29.93	29.94	E.	E.	E.	Fair	Fair	Fair
29,	" 70	" 93	" 75	" 81.5	29.97	29.91	29.90	29.93	E.	E.	E.	Fair	Fair	Fair
30,	" 74	" 96	" 79	" 85.	29.96	29.93	29.90	29.93	E.	E.	E.	Fair	Fair	Fair

**THERM.** } Max. Temp., +96° on the 30th.  
 } Min. " +43° " 21st.  
 Mean of the Month, +68°.83.

**BAROMETER,** { Maximum, 30.37 Inches on the 9th.  
 { Minimum, 29.60 " " 5th,  
 Mean of Month, 29.93 Inches.

Temperature of the Air - 71°

DAY.	Temperature of the Air.										Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.				
1,	29.492	29.390	29.339	29.3847	65.0°	69.4°	64.0°	65.36	.529	.601	.525	.546	.88	.87	.90	.90	E.	E.	Calm.	Calm.	—	—		
2,	29.370	29.357	29.463	29.4221	64.0	66.4	56.1	60.29	.535	.524	.376	.455	.92	.83	.85	.88	S. by W.	S. by W.	Calm.	Calm.	0.180	Surf. 11° to 1 am, Th. 9 to 10 am. Cl'd.		
3,	29.531	29.433	29.409	29.4513	60.2	69.4	61.3	63.31	.446	.499	.479	.475	.87	.72	.92	.84	Calm.	S.S.W.	Calm.	Calm.	0.110	N.W. by E. Rem fr. 9 h 45 am to noon		
4,	29.428	29.313	29.323	29.3410	61.4	60.8	59.9	61.79	.550	.462	.494	.487	.83	.89	.98	.90	E. by S.	S. by S.	Calm.	Calm.	0.250	N.W. by E. Thum. 9 to 10 am, also from 9 to 11 pm		
5,	29.325	29.342	29.415	29.3811	55.9	61.4	50.2	53.00	.356	.463	.276	.339	.81	.87	.78	.84	N. by W.	S. by S.	Calm.	Calm.	0.343	Clouded. Oc. th. 11 am, Pining, & Pn all day.		
6,	29.486	29.592	29.687	29.6307	49.3	56.7	43.1	51.64	.272	.298	.236	.268	.78	.64	.86	.72	N.W.	N.W. by N	Calm.	Calm.	0.080	Cl'd. Slight rain from 7 to 11 h 45 am		
7,	29.747	29.747	—	—	54.9	62.5	—	—	.325	.363	—	.268	.77	.66	—	.72	N.W.	N.W. by N	Calm.	Calm.	not app.	Detach. cl'ds. St. Pn at 12h 45m to 1 pm		
8,	29.952	29.955	29.982	29.9722	55.4	66.7	49.4	56.47	.374	.384	.285	.227	.64	.60	.82	.72	S.S.W.	N. by E.	Calm.	Calm.	—	Cloudy all day.		
9,	30.037	29.951	29.836	29.9169	56.1	69.4	50.3	58.73	.307	.449	.292	.346	.70	.64	.81	.71	Calm.	S.E. by S.	Calm.	Calm.	—	Mostly clear, Hazy. Fine.		
10,	29.782	29.605	29.551	29.6124	58.7	75.1	60.5	63.98	.357	.581	.411	.442	.74	.68	.81	.76	Calm.	S. E. by S.	Calm.	Calm.	—	Clear and unclouded. Very fine.		
11,	29.563	29.555	29.641	29.6561	63.6	66.5	62.8	60.52	.421	.493	.349	.399	.73	.77	.89	.75	N.E. by N.	E. by S.	Calm.	Calm.	—	Unclouded to 4 pm. Rem. overc't. Fine		
12,	29.867	29.899	29.885	29.8815	54.7	61.3	52.5	57.52	.248	.319	.283	.310	.59	.60	.73	.67	N.E.	E.	Calm.	Calm.	—	Halo round moon 0 am. Clouded all day		
13,	29.873	29.618	29.751	29.7466	62.8	64.3	54.8	60.80	.413	.434	.368	.409	.74	.74	.88	.79	E. by N.	E.N.E.	Calm.	Calm.	—	Clear and unclouded. Very fine.		
14,	29.693	29.619	—	—	65.5	72.4	—	—	.464	.607	—	.76	.78	.78	.88	.74	N.W.	S.S.E.	Calm.	Calm.	—	Overcast, with light haze.		
15,	29.558	29.507	29.550	29.5462	63.7	75.0	66.0	69.18	.483	.535	.406	.489	.85	.63	.65	.70	Calm.	S.S.W.	Calm.	Calm.	—	Detached clouds generally.		
16,	29.643	29.637	29.616	29.6311	63.4	70.4	56.8	62.72	.417	.488	.396	.433	.73	.68	.88	.78	N. by E.	S.S.E.	Calm.	Calm.	—	Mostly clear.		
17,	29.649	29.603	29.592	29.6062	62.4	76.8	60.9	67.00	.426	.623	.472	.515	.77	.69	.90	.80	Calm.	S. by E.	Calm.	Calm.	—	Clear to 8 am. Rem. uncl'd but hazy.		
18,	29.576	29.465	29.432	29.4940	63.5	70.8	68.0	69.86	.533	.645	.605	.637	.94	.88	.91	.90	Calm.	S. by E.	Calm.	Calm.	—	Clear to 4 pm. Rem. mostly clouded.		
19,	29.335	29.241	29.302	29.3035	69.0	80.7	66.5	63.82	.653	.496	.462	.552	.95	.49	.83	.79	Calm.	N.W.	N.W.	N.W.	0.015	Clear to 4 pm. Rem. mostly clouded.		
20,	29.376	29.469	29.498	29.5039	59.8	59.8	54.4	56.64	.401	.360	.338	.349	.80	.71	.81	.77	Calm.	N.W.	N.W.	N.W.	0.765	Thum. 1 & 2 am. St. Pn 6 am. Heavy		
21,	29.512	29.530	—	—	55.2	58.2	—	—	.315	.289	—	.78	.61	—	—	.77	Calm.	N.W.	N.W.	N.W.	0.060	Dist. th. uncl'd all day. St. Pn 10 to 11 am.		
22,	29.681	29.708	29.795	29.7435	56.9	68.4	57.7	60.33	.314	.272	.372	.317	.71	.40	.50	.63	N.W.	N.W.	N.W.	N.W.	—	Densely overcast all day.		
23,	29.856	29.756	29.779	29.7518	62.7	75.3	64.0	67.11	.329	.342	.262	.314	.59	.40	.50	.63	N.W.	N. by W.	Calm.	Calm.	—	Clouded. Showery all forenoon.		
24,	29.818	29.755	29.731	29.7540	64.8	77.8	64.8	70.24	.419	.428	.331	.332	.70	.47	.55	.47	N.W.	N.W.	Calm.	Calm.	0.115	Generally clouded. Clear intervals.		
25,	29.730	29.643	29.608	29.6384	68.8	80.0	67.6	72.72	.317	.498	.331	.332	.70	.47	.55	.47	N.W.	N.W.	Calm.	Calm.	—	Mostly clear. Hazy.		
26,	29.598	29.511	29.495	29.5207	65.3	80.7	68.2	70.34	.402	.505	.528	.495	.67	.49	.79	.69	Calm.	S. by W.	Calm.	Calm.	—	Unclouded. Hazy. Fine.		
27,	29.515	29.502	29.512	29.5113	68.3	68.9	64.0	67.23	.572	.484	.510	.524	.85	.71	.88	.81	N.W.	W.	Calm.	Calm.	—	Uncl'd to 3 pm. Rem. partially clouded		
28,	29.544	29.510	—	—	67.4	76.6	—	—	.581	.598	—	.90	.67	—	.88	.81	N.W.	N.W.	Calm.	Calm.	—	Clouded all day. Air very close.		
29,	29.553	29.509	29.511	29.5254	65.2	75.7	65.9	69.98	.586	.581	.543	.588	.96	.73	.87	.83	E. by N.	E.	Calm.	Calm.	—	Overcast. Hazy. Air very close.		
30,	29.522	29.511	29.504	29.5114	72.6	78.8	71.0	73.05	.608	.572	.537	.583	.78	.60	.73	.74	E.N.E.	E. by S.	Calm.	Calm.	not app.	Mostly clear. Light passing clouds.		
Mean	29.6191	29.5791	29.5865	29.5939	62.15	70.25	59.63	63.82	.429	.478	.407	.436	.77	.66	.80	.75	E.N.E.	E. by N.	Calm.	Calm.	—	Mostly clear. A few detached cl'ds. Fine		
																					1.920	Yellow matter felt with the rain on the 1st, 9 am; 15th, 10 pm; and 19th, 10 am		

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[No. 5.]

**SPINAL MYELITIS DEPENDANT ON AN UTERINE AFFECTION.**

By A. HALL, M. D.

Mrs. — — D., a lady, aged 26, was married in May, 1844, and came with her husband to reside in this city in the month of July following. Her temperament was phlegmatic, and her habit of body decidedly strumous. This was most marked in some of the principal joints, the ligaments of which appeared so destitute of the ordinary tone which characterizes them, that a partial displacement of some of them occasionally occurred when the limbs were made to assume certain positions. This was especially the case with the knee and shoulder joints. To remedy the inconvenience resulting from this affection of the former joint, she wore, constantly, a laced knee cap. Before marriage her catamenial periods recurred, with constancy, every third week. The flow was usually profuse, attended with considerable pain and a good deal of constitutional disturbance. She stated that she had been more than once under medical care for "flying" pains through her chest, which were felt most acutely, and seemed chiefly seated below her right breast. These had been always relieved by blistering, &c. &c. It was impossible to decide, whether these depended on, or were connected with, spinal irritation, but it did not appear that any attention had been drawn to that part from the mode in which she had been treated.

On the 16th July, I was summoned hastily to visit her. She was flooding profusely and had every symptom of a threatening miscarriage, an event which occurred on the 22d, although every means were adopted to avert it. Feeling herself comparatively well on the day following, she very imprudently rose from bed, dressed herself, and when visited, was found reclining upon a sofa. Although warned of the probable consequences, feeling uneasy towards the evening, and under the idea that exercise might benefit her, she walked several times up and down the room, the result of which was, as may be anticipated, a prolapsus uteri. By a rigid maintenance of the recumbent posture, the use of sponge pessaries, aided by astringent injections, cold bathing, strict attention to the state of her bowels and the steady use of tonics, in the course of about six

weeks she was enabled to move about without much inconvenience; and about the middle of October she removed to her own house, and was fully capable of superintending her own establishment. During this time, however, the catamenia recurred, as usual, every three weeks; the flow persisted profusely for about a week, so that from the end of one period to the commencement of the following, there was scarcely the intermission of a fortnight. The pain which she now suffered, at these times, was always attended with a sensation of "*bearing down*," and a "*dragging feeling*" extending from the umbilicus, which were evidently referrible to a greater prolapse of the uterus at such periods than at others. In the intervals, she was, generally speaking, free from pain, and felt so much improved as to be able to dispense with the pessaries altogether.

On the 31st December she walked to town for the purpose of shopping, and having effected her object, she returned home in a cab-sleigh, in which she was most severely jolted. The consequence of this was the re-appearance of every symptom of the prolapse to an aggravated degree. Rest, in the recumbent posture, relieved her to a certain extent. The catamenia returned during the night; and being anxious to receive visitors on New Year's day, she got up for the purpose. I found her that day with a flushed face, a quick pulse and considerable febrile excitement, but no other pains than those I have described. In accordance with my advice, she retired to bed. The catamenia was this time more profuse than ordinary, and assumed a menorrhagic character, lasting a few days longer than usual. Such is a general outline of the previous history of the case, and appears to me to be interesting when connected with subsequent events.

For greater convenience, her bedroom had been changed from an upper to a lower storey of the house in which she resided; but the head of her bed was unfortunately placed in the vicinity of a window, every crevice of which had been carefully stopped to exclude draughts of cold air, except by an oversight in one direction, immediately opposite which her head laid at the distance of about eighteen inches. On the 12th of January, symptoms of bronchitis shewed themselves,

which were encountered by the ordinary treatment. In the course of a few days she was attacked by flying pains across the upper part of the thorax. They varied considerably in their direction. Sometimes they would shoot down the arms; at other times across the neck; at other times the whole scalp became involved, from the occiput to the frontal region. Increasing in intensity, the slightest alteration in the position of the head, was sure to exacerbate them if present, or to induce them if absent. There was scarcely any febrile excitement, her pulse regular, and no headache, except the pain described, which was frequently agonizing. There was, however, nausea and costiveness. There was but little tenderness on pressure in any of the parts in which she suffered these pains. Suspecting spinal irritation, the spine was carefully examined, *but no local evidence of such an affection was discoverable.* Her chest was examined by the stethoscope, but no abnormal sound, except a mucous r  le at the upper part of the left lung, was observed. The case was viewed as one of neuralgic rheumatism, and treated accordingly. In the course of a fortnight she was sufficiently recovered to bear removal to her mother's house, and her strength became there, in a few days more, so far restored as to enable her to walk about, and even to join the family circle. She, however, again laboured under the prolapsus, and was again compelled to adopt the employment of the sponge pessaries, and the astringent injections.

From this time her convalescence had every appearance of being progressive, when about the beginning of March a new train of symptoms began to develop themselves. Nausea and vomiting, especially after ingesta—obstinate costiveness—shooting pains across the lower part of the thorax, and apparently along the attachment of the diaphragm—anxious and hurried breathing, with frequent sighing. Her spine was again examined, and *a marked tenderness on pressure was now for the first time observed over the seats of the ninth and tenth dorsal vertebrae*, pressure here exciting the thoracic inquietude. Remedial measures were immediately directed to this part. This treatment consisted in the employment of repeated blisters, and counter-irritant ointments of tartar emetic and croton oil. The internal exhibition of occasional brisk purgatives, in which the croton oil was the chief ingredient, and a mild mercurial salivation. Bleeding was not deemed expedient, in consequence of her habit of body, and her general debility. There was yet but little acceleration of the pulse, and but a very trifling febrile reaction. The pains and uneasiness, despite of this treatment, which was strictly carried out, augmented, and became most acute, as well as much aggravated by the slightest pres-

sure. On the 14th March, her pulse had increased to 100, with considerable fever and thirst. The dyspnoea increased, especially towards evening and during the night, but remitted towards morning and during the day. She complained of a sensation, as if "*her chest was bound by a hoop*," which now became a new symptom, superadded to those detailed. On the 21st, a remission in the severity of all the symptoms took place, and she both looked and expressed herself as being better. This apparent state of amelioration continued for a few days. Early on the morning of the 24th, I was hastily called up to see her, the message left being to the effect that she was dying. Desirous of availing myself of Dr. Holmes' experience, we from this time attended the case together. We found her recovering from a state of apparently hysterical delirium, in which she had been during the latter part of the night. There was no fever, thirst great, tongue much loaded with a thick white fur, pulse about 96, small, and rather sharp, retention of urine, no alvine evacuation since the preceding morning, constriction across the chest, with darting pains through it as before, sensation of numbness in lower extremities, with great pain on moving or flexing them. On examining the spine, *no tenderness was experienced on pressing over the originally tender spots, but there was considerable tenderness now over the seats of the fourth and fifth cervical vertebrae.* The catheter was used, and a turpentine enema administered, which speedily brought away a large quantity of very offensively smelling f  culent matter. The urine possessed an exceedingly f  tid and highly ammoniacal odour. Her feet were immersed in a hot mustard bath, and the revulsive treatment to the nuch   was again adopted, the blisters being afterwards dressed by extract of belladonna. A blister was re-applied to the dorsal vertebrae, over the seat of an old one, which was yet uncicatrized. Although she had been previously slightly mercurialized, it was deemed advisable to put her again under the influence of mercury, and three grains of calomel, with three grains of camphor, were accordingly prescribed to be taken every three hours. An anodyne draught of tincture of opium, with succinated spirit of ammonia, was instantly administered. In the evening of the same day there was but little amelioration. She had a tranquil sleep, however, under the influence of the narcotic, which required repetition before that effect took place. It was again necessary to use the catheter, and administer an enema. The withdrawal of the catheter was always attended with great pain.

On the 25th, all the symptoms were worse. On the 27th, leeches were applied to the nuch   without benefit. Pulse 120, smaller, becoming irregular, yet still retaining its sharpness. Tongue dry, and becoming brown.



Her intelligence seemed perfect when she was sharply addressed, and her attention engaged on the speaker, but she quickly relapsed into a kind of muttering delirium, to which eventually was superadded subsultus tendinum. She calmly expired on the morning of the 28th.

A known objection on the part of her relatives to post mortem examinations, precluded an examination of any other part than the spine. Forty-eight hours after death, the vertebral canal was opened, and the spinal column exposed. The theca was found throughout its whole length much congested, but without any evidences of inflammation. On running the finger along the cord, at the tenth vertebral space it suddenly sank into its substance. The theca was slit up, and here, and here only, was any disorganization of the cord perceptible; for the space of about an inch it had undergone a complete ramollissement. The softened tissue was white, (not brown or lees colour, as usually seen), and the disorganization appeared to have extended through the cord, involving the grey as well as the medullary portion. The cervical portion of the cord was firm, and of the usual consistency.

The close attention which has been bestowed upon pathology, has of late years elicited much useful information relative to the influence which appears to be exerted upon the brain and spinal column by deviations from a healthy state in the various viscera of the body. The sympathetic phenomena which thus develop themselves, have been chiefly studied with reference to gastritis and inflammatory affections generally of the mucous and serous coats of the intestinal canal, and more lately still of the kidneys and urinary apparatus. The principal laid down by Dr. Stokes, "that in all diseases, as a general rule, there is an affection of the nervous system, either local or general, or, in other words, that there is no disease which we could name, which does not present signs of an affection of the nervous system, either *quoad* the suffering organ itself, or of an affection more general and diffuse," is a perfectly just one, consonant with the experience of all who watch narrowly the progress of diseases, and is a necessary consequence of that very intimate nervous communication which is found to exist, either directly or indirectly, between all parts of the animal organization. Most usually, the reflex phenomena which are thus induced, are the consequences of simple irritation of the nervous centres, not the slightest abnormal appearances having been discerned in the brain or spinal cord after death in cases in which such phenomena were even markedly developed. Instances of this nature might be multiplied, but they are unnecessary, as brevity is my object; but

while thus in the generality of cases, irritation at the peripheral extremities of the nerves, may excite no appreciable morbid alteration in the organization of the brain or cord, there yet can be no doubt, that when long continued and of an exalted character, it may be productive of such effects. The following case, quoted in Stokes's Lectures on the Theory and Practice of Physic, will illustrate this point:—"A soldier was wounded in the right shoulder with a lance, in consequence of which he got an aneurism of the axillary artery, for which an operation was performed. At the moment the ligature was tightened, he experienced exquisite pain in the situation of the ligature, which extended to the brachial plexus; this continued to the next day, and then ceased. On the fourth and fifth days the pain returned with increased violence, and continued until the seventh day, when it became intolerable. He was blooded, but without any good effect. He then became comatose. His head was drawn backwards; he had alternations of stupor and excitement, and soon after expired. On dissection, the ligature was found to embrace some of the principal branches of the brachial plexus, and there was an abscess of the posterior lobe of the brain, extending to the optic thalamus."

In the Transactions of the Medico-Chirurgical Society of London for 1841, there will be found an interesting and highly important paper by Mr. Stanley, demonstrating unequivocally that paraplegia may be induced by severe spinal disease, as a secondary affection, without any necessary alteration of structure in the cord or its membranes; affording this valuable practical result, that paraplegia is not always necessarily dependent upon specific disease of the cord, and disclosing a means of resort to a more rational line of treatment in some of such cases. In two only out of the seven cases narrated by Mr. Stanley, were any morbid changes in the cord perceived, and these changes consisted chiefly in vascular turgescence and slight effusion; but these are sufficient to demonstrate the effect on the cord of a persistent irritation at the peripheral extremities of the nerves which supply the kidneys.

To these cases illustrative of the principle laid down, might be cited others, in which post mortem examinations have revealed the existence of inflammation of the meninges of the brain, as a result of inflammatory affections of the intestinal tube. That uterine affections are equally competent to induce similar consequences, cannot be doubted. We recognize such effects in the mania, delirium, occasionally convulsions, and other symptoms, dependent on the irritation, to say the least, of the great nervous centres, propagated from the suffering organ. The case which I have given affords another proof of the effect of such long continued irrita-



tion, the induction of inflammation and its consequences in that part of the cord more immediately under sympathetic connexion with it. We have to remember the anatomical relations of the uterus with reference to the nerves which supply it, and maintain its relations with other parts of the system. The uterus and its ovaries are mainly supplied by the spermatic plexus descending from the renal in which the lesser splanchnic terminates. This nerve arises from the tenth and eleventh thoracic ganglia of the great sympathetic, which communicate directly with the anterior branches of the tenth and eleventh spinal nerves. It was opposite the tenth dorsal vertebra that the ramollissement of the cord had taken place. The circumstances of the case are of too striking a feature to permit us to consider this as a mere coincidence. The uterine irritation, dependant on the prolapsus can be viewed in no other light than a cause, and the myelitis as its effect; the irritation at the peripheral extremities of the uterine nerves, inducing, in the first instance, by reflex action, symptoms of spinal irritation alone, which, from continued application of the exciting cause, degenerated into inflammation with its consequences.

#### CONTRIBUTIONS TO CLINICAL MEDICINE.

By JAMES CRAWFORD, M. D.,

Lecturer on Clinical Medicine and Surgery, McGill College.

#### CASE OF RHEUMATIC ARACHNITIS.

Catherine Benson, *ætat.* 24, the wife of a soldier, of highly respectable character and appearance, delicate looking, slender figure, but previously enjoying good health, was admitted into the Montreal General Hospital, under my care, on the 15th September, 1845, having been complaining for about a fortnight of severe rheumatic pains in her shoulders, neck, and back of her head, and scalp, which she attributed to cold, having carelessly exposed herself to cold, while overheated with washing, being at the time very insufficiently clothed. She had not much done for her, except such homely remedies as she thought of herself, for several days, till the head became affected, when it was shaved, and cloths wet in cold water and vinegar were applied, which aggravated her complaint to such a degree, that she applied for admission into hospital. At the time of admission, the pains of her head and back of her neck, were excruciating, and darting like *tic dolozeux*, or tooth-ache; and during the paroxysm were so severe, as quite to overpower her. The pupils were generally slightly dilated; her respiration hurried and noisy; tongue, for the most part, dry and reddish, being partially covered by a white fur, in patches. The epigastrium, slightly tender on pressure: there was some perspiration about the forehead;

no indications of cardiac disease were discovered; pulse 120, compressible, and of natural volume.

The case was now viewed as a rheumatic affection of the meninges. She was ordered calomel gr. ij., and opium gr. ½, every third hour, and a blister to the back of her neck, and stimulating liniments to her neck and shoulders. For several days her complaint appeared stationary; although its intermittent character gave her intervals of ease and comparative quiet, still the pains of her shoulders and neck became more prominent, as the more excruciating neuralgic pains of her head moderated, being masked (as it were) by their severity, during their persistence.

On the 19th it is reported, that her pupils were more dilated, and apparently insensible to the light; the *alæ nasi* slightly dilated at each inspiration, and although she was quite sensible, and expressed her intelligence by a nod, or other motion of the head, she appeared unable to speak. Her pulse 96, soft, and of a natural volume. Apprehending that the opium might have some deleterious influence, it was discontinued, the calomel ordered alone, as formerly: sinapisms were applied to the legs, and mercurial ointment, 3ij. ordered to be rubbed into the axilla and groins. Next day, the report states, that she derived much benefit from the treatment, could now speak a few words very connectedly and sensibly, but complained that her memory was very deficient, and that she could not find words to express herself. The pupils were more natural; her headache easier; the pains of her shoulders as before.

The following day she was still better; she spoke with more freedom and ease, her memory still, however, very deficient, of which she complained; her mouth, becoming tender, she was ordered to discontinue the mercury, to take hydriodate of potass, gr. iij., three times a day, and to have some chicken broth.

From this period, she appeared to go on pretty well; her complaints assuming a periodic character, an exacerbation taking place each alternate day, the intermediate one being one of ease: she was ordered, in addition, to take *vinî colchici*, ʒss. and *tinct opii*, gtt xx ter. die.

October 1st.—The report states, that she goes on improving; her complaints observing the periodic character; the exacerbations commencing towards evening, and generally continuing about 24 hours, during which time she could speak but little, or move her head, from the severity of the pain: during the period of ease, she could speak freely, and appeared to enjoy herself much; there was no febrile excitement, and the affection was quite of a neuralgic character.

Ordered di-sulphate of quinine gr. ss. ter. die. and two blisters to her temples.

On the 7th she is stated to have passed the intervening period much as formerly: she now complained of soreness of the epigastrium, and acidity of the stomach. She was ordered carbonate of magnesia, 3℥ and a draught of acetate of morphia gr. ss. ter. die., on her neuralgic days.

11th.—With the exception of some nausea and vomiting of bilious matter, there was no particular change in the case since last report. Her tongue has assumed the patchy condition; her bowels are free, and her stomach has been relieved by an emetic; pulse 86; continues her magnesia and morphia.

Had a severe attack of pain on the 12th; her countenance indicated great suffering; the eyebrows were contracted, and the pupils dilated; pain shooting like a toothache; pulse 120, small and weak. She was now ordered nitrate of potass 3vij. in barley water lb. ij., this to be taken during the day; to have ung. hydrarg. 3℥ rubbed into the axilla daily.

After this period, she had four days of comparative ease, when the pain returned severely, her stomach became irritable, and she threw up acid fluid. She remarked, that the vomiting was contemporaneous with the headache, and, she always said, was caused by it. Her mouth was affected by the mercury, which she was ordered to discontinue, and to take sulphate of magnesia (2 drachms), largely diluted during the day; opium in grain doses, four times a day, was now tried; and after some days, Graves' Mixture, containing tinct. opii. ½ ounce, and antim. tartar. gr. iv., and mixture camphoræ 8 ounces, half an ounce to be taken every second hour, to endeavour to obtain sleep, of which she had been deprived for several nights, but without any effect. Blisters were then applied to the temples, and acetate of morphia sprinkled over the abraded surface, with only temporary relief.

These remedies, together with colchicum, were repeated, without any permanent advantage, and she had lost her flesh and strength, from her long suffering and abstinence. She was ordered quinine di-sulph gr. ss. ter. die.

Again she had a period of ease for several days, slept well, and made no complaints, but of debility; she fancied she would now get over her suffering: she did not, however, regain strength, but appeared gradually, although very imperceptibly, to waste away; her perspirations becoming more profuse, and her appetite quite failing; pulse becoming rapid (132) small and unequal. For several days she continued in this debilitated state, although free from pain, and died on the 18th November, two months from her admission.

The post mortem inspection exhibited the body very much emaciated. When the calvarium was removed, the vessels of the dura mater appeared very turgid with blood; the substance of the brain firm and very vascular; upwards of four ounces of serum were contained in the ventricles, and burst out when the brain was slightly raised up. The dura mater, at the base of the skull, was of a rose color, but no effused lymph was perceived at any part.

The hydrocephalic appearances which the autopsy revealed, may give rise to a question,—Would not a more rigid antiphlogistic plan of treatment have been proper, and, perhaps, have averted the fatal issue? I would reply, that the difficulties which the obscurity of the case imposed, are sufficient reasons for not resorting to blood-letting—a measure which does not, by any means, meet the general approbation or concurrence of the profession, even when the indications are more palpable than they were on the present occasion.

Many modern physicians are averse to blood-letting in rheumatism, and there are also many who even attribute evil consequences to its use, supposing that it favors the metastasis, or translation of the disease from external to the internal and vital organs; and my talented friend, Professor Todd, thinks that affections of the brain in cases of rheumatism, only occur on those occasions where blood-letting has been previously employed. The present occasion, however, does not support this opinion, as there had not been any used; on the other hand, we have also high authority for the free use of the lancet, in all cases of inflammatory rheumatism; disregarding the views of a specific nature of the disease, and the opinion of the unsuitableness of this remedy in such cases.

It does not appear to me, that the increased fullness of the cerebral vessels, or rosy tint of the dura mater, and collection of serum in the ventricles, requires an inflammatory cause for its explanation; the minor grade of irritation, (if they can be separated) being probably sufficient.

In a case related by Dr. McLeod, in his work on rheumatism, where the meninges became involved, the patient was only able to reply by monosyllables, although apparently quite intelligent; there was strabismus, and some convulsive motions of the muscles of the face. The autopsy showed an injected condition of the arachnoid, and fluid at the ventricles, slight adhesions of the convolutions, the corpus striatum appearing as if covered with cream.

It has been remarked by Dr. Budd, that those cases which terminated fatally, with symptoms of arachnitis, the appearances after death were by no means decisive. In no case on record, (he says), were there either false

membranes or purulent effusion: in some there was a turgid state of the vessels, or an opaline serum beneath the arachnoid, while in others there was no morbid appearance.

Montreal, August 24, 1846.

#### CASE OF HYDRORACHITIS.

By R. W. EVANS, M. D., Richmond, C. W.

To the Editors of the *British American Journal*.

August 7, 1845.—Mrs. M—— requested me to visit her child, aged 8 months. The nurse stated that she observed a small tumour on the lower part of the spine immediately after the child was born. On examination I found it situated on the 4th lumbar vertebra; it increased very much in size up to the present time, and is now about the size of a goose egg, bearing all the marks of a case of Hydrorachitis, or Spina Bifida of the "Arabians." On pressing the tumour, fluctuation was quite perceptible, and on examination seemed to be transparent and elastic. The head of the child was very large, of an oblong shape, and appeared to be hydrocephalic; legs were insensible and almost paralytic.

The mother was informed that it was a disease of great danger and generally incurable.

Treatment as follows.—On the 8th of August, 1845, I punctured the tumour by heated needles, 8 in number, after which I dressed the part with "charpee," saturated with the tinct. of Iodine, and applied a bandage. I continued this application for seven days, when the tumour seemed to be very much diminished. The child was a little feverish; pulse 130. Ordered a warm bath and an aperient of Ol Ricini. August 14th.—Punctured the tumour a second time, and continued the dressing as above stated, with the addition of a piece of pasteboard, which I applied over the dressing and confined in "situ" by a bandage. I removed the dressing every fourth day, at the same time painting the tumour with the tinct. of Iodine and applied the dressing as above.

This treatment was continued for six weeks when the tumour completely disappeared, leaving the skin shrivelled up over the situation of the tumour. The head became diminished in size, and the general health good. It is now nine months since, and there is no appearance of the tumour.

I was prompted to use heated needles in consequence of seeing various aneurisms by anastomosis cured by their application.

July 10, 1846.

*Carbonate of Iron with Sulphate of Quinine in Intermittent Fever.*—Prof. Lippich of Berlin recommends the following formula:—Carbonate of Iron, 1 gramme; Sulphate of Quinine, 1 gramme; Ext. Taraxici, q. s.—to be made into a mass, which is to be divided into 30 pills, two of which are to be taken every two hours. The Carbonate of Iron may be afterwards increased.—*Gaz. Med. de Paris*.

## PRACTICE OF PHYSIC AND PATHOLOGY.

### OBSERVATIONS ON THE SEAT AND NATURE OF CHOREA, AND ON THE USE OF THE OXIDE OF ZINC IN THIS DISEASE; WITH CASES.

By O'B. BELLINGHAM, M.D., one of the Medical Officers of St. Vincent Hospital, &c. &c.

Chorea is one of the few diseases, with the seat and nature of which we are still very imperfectly acquainted, and the pathology of which remains in a very unsatisfactory state. The disease being seldom fatal, the opportunities for examining subjects who have died while laboring under it have been comparatively few, and even in these the morbid appearances have presented nothing like uniformity.

The seat of chorea has been hitherto generally sought for some where in the nervous centres; and the disease has been supposed to depend upon an abnormal condition of some portion of the cerebrum, cerebellum, or medulla spinalis. This opinion was founded on the facts that in chorea, as in hemiplegia, one side only of the body is in many cases implicated; and its symptoms bear a faint resemblance, partly to those of paralysis, and partly to those of convulsion. The researches of the French pathologists having apparently shown that the cerebellum and corpora quadrigemina preside over, or regulate locomotion and progression, it was expected that the seat of chorea would be found in these parts of the brain; and this theory seemed to acquire confirmation from the investigations of M. Serres, who, in four fatal cases, found evidence of disease in or about these parts. But subsequent observers have not succeeded in detecting any similar lesions; or in demonstrating any connection between chorea and disease, either of the cerebellum or of the corpora quadrigemina.

If chorea did really depend upon a morbid state of the brain, spinal marrow, or any important internal organ, it is hardly to be supposed that we should hitherto have altogether failed in discovering it, more particularly as pathological anatomy has been cultivated for a considerable number of years with so much ardour. Indeed, when we consider the transient nature of chorea, that it occurs almost exclusively between the age of eight and fifteen; that it is much more frequent in the female than the male; that it is never fatal when uncomplicated; and that after persisting for a certain length of time, it will generally subside of its own accord, it is but reasonable to conclude that the seat of the disease is neither in the nervous centres nor in any other vital organ.

By the older authors, chorea was looked upon as a variety or form of paralysis, but by the majority of writers of the present day it is included among spasmodic or convulsive affections. It does not, however, properly belong to either class. By the term paralysis, we understand an entire suspension of the power of the will over the voluntary muscles; while spasm or convulsion is a sudden, strong contraction, or alternate contraction and relaxation of the voluntary muscles, occurring altogether against the will. In chorea, on the other hand, the involuntary movements are such as might take place voluntarily, the balance or association in the motions of the voluntary muscles is deranged or disordered, and the power of the will over the muscles is impaired rather than altogether lost; for unless in aggravated cases of the disease, the involuntary motions can in some measure be controlled by an effect of the will, and in all cases they are stopped during sleep. Chorea, therefore, may be said to consist in an excess of mobility of the voluntary muscles, and in an inability in these parts to preserve the same position, or to remain in a state of repose even for a short period.

When chorea is general and severe, the voluntary muscles are in a state of almost perpetual motion, the body is thrown into the most grotesque attitudes, and the patient's arms are jerked about without his appearing to have any control over them. In the majority of cases, however, and always when the chorea is partial, the patient retains some control over the voluntary muscles, but he cannot maintain it for any length of time, and almost as soon as one set of muscles is brought into action by an effort of the will, their antagonists come into play. For instance, if we desire the patient to protrude his tongue, he will do so; it may be after various contortions of the muscles of the face, but we cannot retain it in that position, it will be suddenly and involuntarily retracted. If he grasps an object with the hand, the extensor muscles will unconsciously come into play, and it will fall to the

ground. If he attempts to convey a morsel to his mouth, many fruitless attempts will probably be made before he succeeds.

Indeed the involuntary and extraordinary motions which characterize the aggravated form of chorea has led to its being regarded as an analogous derangement of function in the voluntary muscles to what we observe in some forms of derangement of the intellectual functions. In other words, "chorea (M. Bouillaud remarks) may be said to be to the functions of the voluntary muscles what certain forms of insanity are to the intellectual; it appears to constitute a state which may be called *folie of the muscles*." The analogy, however, is rather far fetched, the functions of the two systems being so opposite; but the idea is not new; for in the earlier ages, individuals the subject of chorea were supposed to be bewitched.

In investigations into the seat of chorea, the attention of pathologists (as I have already shown,) has been in a great measure turned away from the parts actually engaged in the disease, and up to the present day almost, the muscles, "though the suffering organs," have been nearly altogether overlooked; while the nerves which supply these parts have been exclusively regarded, or the disease has been supposed to have its origin in irritation of some other part. It may, therefore, be questioned whether our efforts hitherto have been in the right direction. The only author that I am aware of who has called attention to this point, is Dr. Wilson. In his work on "Spasm, Languor and Palsy," he has urged the importance of investigating the state of the blood in these diseases; as upon its healthy or unhealthy condition he believes the healthy or unhealthy discharge of the functions of the muscles depends. "The muscles (he very properly observes) are to be viewed, not merely as organs of motion, as ministering only to an occasional and mechanical function; but collectively as the most extensive of living structures, continually employing and employed upon a large proportion of the entire mass of the blood. The muscles indeed in their constant function of nutrition are with respect to the blood as glands, ever busy in separating from it the materials of their own growth, and restoring it in an altered state to the general current of the circulation."

Again, in another place, he observes,—"in the practical application of these principles to the treatment of muscular disorder, we find that great advantages are actually obtained by addressing our remedies to the muscle through the wide current of the blood that pervades its entire texture, rather than by seeking to influence the structure through the exclusive agency of the nerve. By extending the supply of blood to the muscle, sometimes by reducing it, by removing hurtful principles from the circulation, or by restoring those which are inherently wholesome, we do in truth best control the symptoms of muscle disorder.

This appears to be the most rational view to take of chorea, and it is that which most probably will ultimately be found to be correct. Chorea should, therefore, be regarded as a *muscular*, not a nervous disorder; and its cause is to be sought for, not in the nerves or nervous centres, but in the blood; altered states of which very probably occasion the derangement in the functions of the muscle which characterize the disease. What this altered condition of the blood may be, cannot of course be exactly demonstrated; it may be presumed that this vital fluid is impoverished, because chorea generally is observed in individuals in whom the function of nutrition is defective, or who present the ordinary signs of debility. But in addition, there is probably some further alteration which predisposes the muscular system rather than any other to sympathize with the disorder of the general system.

That the muscular fibre should be disposed to derangement of its functions at the age at which chorea generally occurs might be presumed, because anything which interferes with its nutrition in early life must be more prejudicial than, than at more advanced periods. Now chorea attacks almost exclusively young persons who have not arrived at puberty; at this period of life the voluntary muscles are far from having acquired their perfect development, and nutrition must be active to constitute a state of health. As long as the arteries continue to carry an adequate supply of fibrine to the muscular tissue, its growth will proceed, and the functions of the muscles will be performed with vigour; but if the individual is either badly fed, or over fed, or if nutrition is defective from any other cause, the arterial blood becomes incapable of furnishing the necessary material, or its constituents may be altered from the healthy standard. Under such circumstances the functions of the voluntary muscles are very likely to be performed imperfectly, or their motions to be deranged or dis-

ordered, and chorea may be developed in a subject, in whom in after life the same exciting causes would call into action a different disease.

This view of chorea might be objected to, as it apparently overlooks the influence of the nervous system in the production of disease: but it really does not. We all know that muscular contraction is the result of nervous communication between the sensorium or the medulla spinalis, and the muscles; and that the performance of the functions of the voluntary muscles depends upon the integrity not only of the nerves which supply them, but also of the part of the brain or spinal marrow from which they proceed. We likewise know that injury or disease of the parts from which the nerves take their origin will produce disordered action in the muscles they supply, and that similar or nearly similar effects may follow an injury of the opposite extremity of a nerve. But pathology discovers no change of structure or injury of the nervous centres or of the nerves themselves in chorea; and observation shows us that the phenomena of this disease are very unlike those which characterize either of the morbid states which I have mentioned. Analogy would therefore lead us to infer that the seat and cause of chorea are different; and everything points to the muscle, not the nerve as its seat. That its cause lies in some alteration of the blood, which medical chemistry may eventually elucidate, appears also to be the most probable conjecture.

The treatment of chorea has proved more successful than could, *a priori*, have been expected, when we consider how defective have been the theories of its origin and cause, and how much obscurity has prevailed respecting its pathology. But it must be borne in mind, that chorea, after persisting for a certain length of time, tends gradually to subside, and will disappear under favorable circumstances through the unaided efforts of nature; and when, in addition, the most opposite modes of treatment are stated to have been pretty nearly equally successful, it may be fairly questioned whether the results were the effect of the remedies employed, or of the *vis medicatrix nature*.

The treatment of chorea has hitherto been in a great measure empirical; remedies have been prescribed without any fixed principle, or according to the various views of its pathology advocated at different periods, or by different individuals. As the disease often occurs in delicate or debilitated subjects, a line of treatment calculated to improve the general health has been frequently employed, and with sufficiently satisfactory results. Debility cannot, however, be regarded as an exciting cause of chorea, because the disease is almost limited to young persons between the age of eight and fifteen, and it is occasionally observed in patients who present none of the ordinary signs of this state.

By many chorea is vaguely defined to be a nervous, convulsive, or spasmodic affection; and it is looked upon as nearly allied to hysteria or connected in some way with derangement of the uterine functions, and it is treated by antispasmodics or emmenagogues. But that it is not a spasmodic or convulsive disease, in the proper acceptation of these terms, we have already seen; and that it cannot be supposed to depend upon derangement of the uterine functions, is proved by its frequently occurring in the male sex.

Some theorists look upon every disease as the result of inflammation of an acute or chronic character; and as chorea is occasionally ushered in or accompanied by headache, pain in some part of the region of the spine, &c., it has been regarded as depending upon inflammation or something nearly approaching this state of some portion of the nervous centres, and it has been treated by bleeding, locally and generally, by counter-irritation, &c., &c. But that chorea is not an inflammatory affection is sufficiently apparent from the absence of all the ordinary symptoms of inflammation, from the little danger which attends the disease, and from other circumstances too obvious to require to be mentioned.

Other theorists would appear to consider the alimentary canal as the seat of chorea, as of several very dissimilar diseases, and they suppose its cause lies in the irritation occasioned by the presence of feculent matter lodged in the intestines. According to their idea, chorea is therefore to be treated by causing frequent and copious evacuations from the bowels. This theory, above all others, has proved the most mischievous in practice; its apparent simplicity, and the facility with which it could be acted on, has caused it to be extensively adopted, particularly as it coincided in some measure with popular prejudices, and came recom-

mended by high authority. Constipation is not, however, even a necessary accompaniment of chorea; the bowels are often perfectly regular in the very worst cases of the disease; and if they are confined, this probably depends upon want of tone in the system, or upon some other circumstances; it is never the exciting cause of the disease, nor will its removal cure it. Numerous cases certainly have been reported in proof of the efficacy of the purgative plan of treatment, but the majority of these only prove that the powers of the patient's constitution were equal to meet both the disease and the remedy.

Although the frequent and continued employment of purgatives in chorea should be proscribed, a single dose of a cathartic will often be advisable at the outset, in order to remove morbid secretions or fecal accumulations, the presence of which, by interfering with nutrition, would tend to increase debility, and an occasional purgative may be necessary afterwards; but beyond this they are likely to prove more injurious than useful, and diarrhoea, even when it occurs spontaneously, instead of promoting, retards the recovery of the patient.

The medicines which at the present day are usually relied upon in the treatment of chorea, belong to the class of tonics, and the mineral tonics are generally preferred to those derived from the vegetable kingdom; among these the preparations of iron have long held the first place, their efficacy having been proved in repeated trials. The subcarbonate of iron of the pharmacopœia was particularly recommended in this disease by Dr. Elliotson, and it has frequently proved successful in his hands, and in the hands of many other practitioners. The efficacy of iron in chorea would appear to afford corroborative evidence that the blood has undergone some change in this affection, because iron is almost a specific in anæmia, in which disease we know this fluid is deficient in one at least of its most important constituents.

In the accompanying cases, the oxide of zinc was employed. I was induced to try this medicine in chorea, partly because I had occasionally found the preparations of iron to disagree, (occasioning headache, hot skin, foul tongue, and constipation,) and partly because the oxide of zinc formerly had some reputation as a tonic in this and some other diseases, though of late years it had almost completely fallen into disuse, having been superseded by newer or more fashionable remedies. The largest dose of the oxide of zinc which I have found necessary is twelve grains; in general, smaller doses were employed. In a few cases it occasioned nausea or pain referred to the epigastric region; it was then given in combination with an aromatic; more frequently it acted as a purgative, and it was found necessary to combine it with an astringent, as prepared chalk, &c.: the latter effect is not generally supposed to be produced by the oxide of zinc; but I have witnessed it on many occasions; in some cases, indeed, the intermission of the medicine for a few days was necessary.

The following cases form only a portion of those in which the oxide of zinc has been employed, and they are given because more accurate notes happened to have been taken of them than of the others, not because there was any difference in the results of the treatment. I have no intention, however, of claiming for this medicine a higher degree of virtue than it is entitled to. It will be seen that in several of the following cases, the shower-bath was employed, and in all the diet was more generous than the patients probably had been previously accustomed to; the administration of the oxide of zinc was likewise combined with all the advantages which could be expected to result from change of residence, perhaps from an unhealthy, confined, and dirty habitation, to a comfortable, clean, and healthy one—from change of air, of scene, of habits, and other circumstances. These are matters which are not always sufficiently taken into consideration in noticing the curative virtues of any particular remedy; but they must have considerable influence in many chronic diseases, and the successful results may probably in many instances be attributed as much to them as to the particular medicine employed.

CASE I.—GENERAL CHOREA IN A VERY SEVERE FORM—TREATMENT WITH THE OXIDE OF ZINC—RECOVERY.

Margaret Healy, a thin delicate looking girl, ætat. 14, admitted into hospital May 26, 1846. Illness of five weeks' duration, commenced suddenly with vomiting, pain in lumbar region, and headache. Soon afterwards she was observed to have partially lost the use of the right arm, and the leg was dragged in walking; the opposite extremities then became engaged; the speech was affected early, and the muscles of the neck and trunk soon

afterwards. She has been confined to bed for the last four weeks, having been unable either to walk, to feed, or to dress herself. The face is pale, and has somewhat a fatitious expression, the appetite is bad, the tongue coated, and the bowels are confined. She is a servant, and attributes her illness to hard work.

A cathartic bolus was directed to be taken at night, followed by a dose of purgative mixture; cupping to painful part of spine to six ounces.

30th. No pain in head or lumbar region; expression of countenance better; speech also improved slightly; tongue clean; when protruded quickly retracted: appetite improved; is able to walk now a short distance.

R. Oxidi zinci.

Sacchari albi aa grana iij.

Ft. pulvis ter die sumendus.

June 2nd. Is up daily, and is able to walk without assistance; involuntary motions of upper extremities much diminished.

9th. States that the medicine has acted much upon the bowels; countenance pale; tongue clean; appetite good.

A little prepared chalk was directed to be added to each dose of the medicine.

11th. The diarrhoea has been checked, and the countenance is much improved.

A tepid shower-bath daily, to be gradually used cold.

Sumat. oxidi zinci grana v. ter in die.

16th. The increased dose has again caused purging; the shower baths have been continued regularly. The patient now has good use of the upper extremities, and in a few days afterwards considered herself well enough to leave the hospital.

CASE II.—GENERAL CHOREA IN A VERY SEVERE FORM—TREATMENT AT FIRST WITH THE SUBCARBONATE OF IRON, AFTERWARDS WITH THE OXIDE OF ZINC—RECOVERY.

Catherine Corrigan, ætat. 8, admitted into hospital January 1, 1846. Illness commenced five or six weeks since with pain referred to both the head and abdomen. A fortnight ago when she was eating her breakfast it was observed that she had lost in some measure the control over the motions of the right arm; very soon afterwards the right leg became affected; in two days more it extended to the left upper and lower extremities; a week since her speech became thick, and she is now quite unable to articulate; the involuntary motions are said to diminish but not to cease during sleep.

On admission she was unable either to sit, stand, or speak; the upper and lower extremities upon both sides were in constant motion; the trunk, neck, and face were also engaged; there was considerable difficulty in swallowing solids. Tongue furred; bowels confined; appetite bad; skin hot; expression of countenance vacant; appears to suffer from pain in the abdomen, which is increased by pressure.

A cathartic powder was directed to be taken at night, followed by a purgative draught in the morning.

3rd. Still appears to suffer much pain when slight pressure is made upon the abdomen; points also to the head when questioned as to the seat of pain; medicine acted well; no change in other symptoms.

Haustus olei ricini cum spirit. terebinth.

6th. No pain in abdomen now; is still apparently suffering from pain in head; a leech had been applied to the inside of the nostril with slight relief. She appears also to be suffering from pain at the back of the neck.

Admoeantur hirudines ij. nuchæ capitis.

R. Sub. carb. ferri sacch.

Bicarbonatis sodæ aa. grana duo.

Pulveris aromat. granum.

Ft. pulvis ter in die sumendus.

8th. Involuntary motions continue uninterruptedly during the day, but subside when asleep: sleeps well now.

A tepid shower-bath daily, to be gradually used cold.

20th. The medicine began to disagree with the patient, and was consequently discontinued.

R. Oxidi zinci.

Sacchari albi aa grana iij.

Ft. pulvis ter in die sumendus.

Soon afterwards the dose was increased to five grains three times a day; it produced no effect upon the bowels; the little patient was soon able to sit up, then to stand and to speak, while the involuntary motions diminished considerably.

February 12th. The patient is now able to walk and speak;

the countenance is cheerful and healthy looking; the motions in the arms are slight, and she can hold objects in her hands. The medicine produces no sensible effect.

26th. She left the hospital this day perfectly well, having continued to take the medicine regularly; she had grown strong and looked healthy.

**CASE III.—PARTIAL CHOREA ENGAGING PRINCIPALLY THE RIGHT SIDE OF THE BODY—TREATMENT WITH THE OXIDE OF ZINC—RECOVERY.**

Maryann Gaynor, aged 14, admitted into hospital February 8th, 1845. States that she had always enjoyed good health previous to the present attack, which commenced six weeks since in the right arm, two days afterwards the right lower extremity became engaged, and about a week subsequently the left arm. Knows no cause to which her illness can be attributed. On her admission the right side of the body was principally affected, progression was difficult, and she was unable to use the right arm; the speech was thick, the muscles of the face, those of the tongue and of the left arm, were also engaged, but in a less degree; appetite good; tongue clean.

A cathartic bolus was directed to be taken at night, followed by a purging draught in the morning; cupping to back of neck to four ounces.

11th.  $\mathcal{R}$  Oxidi zinci grana liij. ter in die. A tepid shower-bath daily, to be gradually used cold.

15th. Has had diarrhoea since she commenced the medicine. Five grains of prepared chalk were therefore directed to be added to each dose.

25th. The diarrhoea has subsided; the speech is not at all affected now, and the patient is able to use her hands; the involuntary motions are less; she uses the cold shower-bath daily; the dose of the oxide of zinc was increased to six grains.

March 8th. The patient is greatly better, being now able to feed and dress herself. The dose of the medicine had been increased to ten grains three times a day, it is given still in combination with a little prepared chalk, as it always otherwise acted upon the bowels.

15th. The involuntary motions have almost altogether ceased; the patient's general health is perfectly good. The medicine has been taken regularly, and the dose latterly had been increased to twelve grains. Shortly afterwards she was dismissed.

**CASE IV.—PARTIAL CHOREA ENGAGING PRINCIPALLY THE UPPER EXTREMITIES—TREATMENT WITH THE OXIDE OF ZINC—RECOVERY.**

Mary Neil, aged 14, admitted into hospital July 27th. States that she laboured under chorea three years ago, the right side of the body was then affected, and the attack lasted about six weeks. Present illness commenced five or six weeks since, and came on gradually: the upper extremities are principally engaged, the lower are affected also, but in a much less degree. Says she suffers from pain in the head and back occasionally, but has none now; when strong pressure is made upon the spine in the lumbar region it occasions pain. The appetite is good; the tongue is clean; the bowels are regular: and she appears to be healthy.

Sumat. oxidi zinci grana v. ter in die.

31st. Medicine has had no sensible effect; the dose to be increased to six grains.

August 8th. Symptoms slightly diminished; no other effect from the medicine. Dose to be increased to eight grains three times a day.

10th. Complaints of some pain in the region of the stomach; a little powdered ginger was therefore added to each dose of the medicine.

20th. A tepid shower-bath for a day or two, to be afterwards used cold.

September 12th. The patient has continued to take the medicine regularly; she uses a cold shower-bath daily, and has been free from any symptom of chorea for a week. Dismissed.

**CASE V.—GENERAL CHOREA IN A VERY SEVERE FORM—TREATMENT AT FIRST WITH THE SUBCARBONATE OF IRON. AFTERWARDS WITH THE OXIDE OF ZINC—RECOVERY.**

Patrick McDermott, aged 12, admitted into hospital March 23rd. He had always enjoyed good health previous to the present illness, which commenced about four months ago. At that time he began to experience a difficulty in holding anything small in his hands. Two months subsequently involuntary twitchings of the muscles of both arms set in; about a month afterwards he had nearly lost all control over both the upper and lower extremities.

On admission, the report states that he is unable to walk, to feed, or dress himself, he cannot articulate correctly, laughs and protrudes the tongue involuntarily, and makes all sorts of grimaces. Appetite good; tongue clean; bowels regular; the face is pale, and he has an emaciated unhealthy appearance.

After a purgative, the precipitated subcarbonate of iron was directed in the dose of a drachm three times a day. Subsequently the dose was increased to two drachms three times a day.

April 13th. No improvement in symptoms: he complains now of pain in the head and loss of appetite; the bowels are confined, and the skin is hot.

A cathartic bolus was directed, followed by a purgative draught. 16th. Sumat. oxidi zinci grana v. bis in die.

30th. The dose has been increased to eight grains three times a day; he complains now of some sickness of stomach; improving in other respects. A little Dover's powder to be added to each dose.

May 3rd. As he still complained of nausea the medicine was discontinued for a few days. It was recommenced on the fifth in a smaller dose, and each dose was combined with a grain of Dover's powder.

25th. The patient continues gradually to improve, he now takes eight grains of the oxide of zinc three times a day.

June 2nd. The medicine has been taken regularly, the disease has quite subsided, and the patient left the hospital very shortly afterwards.

**ON SYPHILITIC INFLAMMATION OF THE EYE.**

By A. JACOB, M. D., F.R.C.S.I., Professor of Anatomy and Physiology in the Royal College of Surgeons, and one of the Surgeons of the City of Dublin Hospital.

The depositions of lymph and other changes in the organization and appearance of the iris are thus noticed by Mr. Lawrence—"The change of color which the organ undergoes is one of the most striking characters of iritis. A light colored iris assumes, under inflammation, a yellowish or greenish tint; occasionally, it is distinctly yellow; and, if the eye be blue, a bright green is sometimes seen. Generally, however, the tint, whether yellow or green, is of a dull and muddy cast, and darker than in the sound state. In case of the iris being naturally dark colored, it presents, when inflamed, a reddish tinge. Together with these changes of color, there is a complete loss of its natural brilliancy; it becomes dull and dark, and the beautiful fibrous arrangement, which characterizes it in the healthy state, is either confused or entirely lost. These changes which are rendered particularly obvious by the contrast between the inflamed and the sound eye, commence in the pupillary margin. In an early period, the very edge of the pupil alone may be affected; the internal circle then becomes altered in color, and thickened; and afterwards the change spreads gradually to the external or ciliary edge of the iris. This alteration of color is produced by effusion into the texture of the organ: and the particular tint is such as would arise from blending with the natural color of the iris that of the lymph, which is yellowish or brownish. The deposition of lymph takes place under various modifications in syphilitic iritis; 1st, its effusion into the texture of the iris generally causes the changes of color just described. 2ndly, it may be deposited in a thin layer, covering a larger or smaller surface. In this way, the edge of the pupil first, and subsequently the lesser circle of the iris assume a reddish brown or rusty color in the beginning of the affection. The discoloured part has a rough villous appearance, when closely inspected, and we shall generally find, on careful examination, more particularly on looking at the part sideways, that slight elevation and irregularity of surface are produced by this new deposit. Sometimes the stratum of lymph has a light yellowish brown or ochrey tint, and a loose villous texture, rising into obviously prominent masses. The rusty color is the most common, and is observed particularly in blue irides; the other is seen in the gray, or the mixture of gray and orange. This kind of deposit is generally confined to the inner circle of the iris; but the outer circle is usually, at the same time, more or less discolored and dull. 3rdly, the lymph may be effused in distinct masses—that is, in small drops or tubercles of a yellowish or reddish brown color! sometimes they are of a bright red, and sometimes yellowish. They vary in size from that of a pin's head to a split pea. Often there is only one; there may be two, three or more. They may be deposited on the edge of the



pupil, or in any part of the anterior surface of the iris. When the inflammation is very active, and has been neglected or improperly treated, the lymph is sometimes secreted so abundantly as nearly to fill the anterior chamber; in which case it has a light dirty yellowish tint, and often a looseness of texture, with semi-transparency. 4thly, under violent inflammatory action blood itself is sometimes effused, and is mixed, in a coagulated state, with the tubercular masses of lymph. I have seen such effusion of blood where the inflammation has not been of the most violent kind. 5thly, lymph may be poured out from the margin of the pupil or the uvea, so as to agglutinate them partially or generally to the capsule of the crystalline. A mass of lymph sometimes fills the pupil. More commonly, a thin grayish web or film stretches across the opening, which loses its clear black color, and has a cloudy appearance. Lymph may be infused in considerable quantity into the posterior chamber, and either make its way through the pupil into the anterior chamber, cause a bulging of the sclerotic, or penetrate that membrane, and form a tumour under the conjunctiva. I have already said that the yellow or bright green tint above alluded to by Mr. Lawrence is as often observed in idiopathic inflammation or after injury as it is in syphilitic iritis: it cannot therefore be considered a characteristic symptom. The effusion of blood which he notices also takes place in other forms of inflammation of the iris, and perhaps more frequently than in this. It is a very remarkable consequence of inflammatory action, and should have been noticed when I was describing the symptoms of acute inflammation of the eyeball, and the changes in the structure of the iris from progressive inflammation. It occurs, however, but rarely, and I think oftener in eyes that have previously suffered from inflammatory action, and in aged or debilitated persons. The effused fluid is obviously blood, for it stains or tinges the aqueous humour, and subsequently forms a coagulum in the lower part of the anterior chamber, or falls down in the same shape as a purulent hypopyum, and is ultimately absorbed. The greater depositions above alluded to, as making way through the pupil into the anterior chamber, causing a bulging of the sclerotic, and forming a tumour under the conjunctiva, do not take place in syphilitic inflammation exclusively, but are rather a consequence of scrofulous disease, as I shall have to notice hereafter.

All the consequences already enumerated as following simple inflammation of the eye are also observed in syphilitic inflammation. There are the irregularities, contractions, and adhesions of the pupil, the loss of contractile power in the iris, and in neglected or mismanaged cases, cataract both capsular and lenticular, with disorganization of the retina and consequent amaurosis. In the worst cases the shape of the eyeball is altered: the sclerotic yields or bulges irregularly, or the cornea is projected forward, as in a bird's eye. In other cases the whole globe shrinks or contracts, the cornea is diminished in size, and the eyelids fall into an unfilled orbit.

In the treatment of syphilitic inflammation of the eye it appears to be admitted on all hands that, whatever confidence we repose in other remedies as auxiliaries, our principal reliance is on mercury. Not only is it relied on for the cure of the specific disease, of which the iritis is a symptom or part, but, as in simple uncomplicated inflammation of the eye, for the reduction of inflammatory action and prevention of its consequences. Whatever difference of opinion may be entertained respecting the necessity of resorting to mercury in other forms of syphilis, the effects of the disease on the delicate structure of the eye are too serious to permit of any hesitation or temporizing. It also appears to be admitted that it is in this species of iritis mercury displays its power most conspicuously. There is not in fact to be found in the whole range of surgical practice a more remarkable example of the remedial influence of a medical agent on disease than that observed in the treatment of syphilitic iritis by mercury. In a few days it, and it alone, will in a recent case, and in a constitution otherwise healthy, arrest an active inflammation, which otherwise will, most probably, proceed unchecked to the destruction of the organ. I have already, when describing the treatment of inflammation of the eye, fully considered the use of mercury, the form and quantity in which it should be administered, and the length of time during which it should be continued. It is therefore unnecessary to repeat these observations, neither is it necessary here to consider how far the practitioner should avail himself of the opportunity afforded him in thus treating one form of secondary syphilitic disease to persevere with the remedy for the total eradication of the malady from the system.

I have reserved the consideration of turpentine as a remedy in the treatment of inflammation of the eye until the present stage of the inquiry, because it has been more particularly recommended in syphilitic iritis; yet it is perhaps in this very form that it is least likely to be fairly tested, the practitioner having a double inducement to prefer mercury, from its known efficacy in venereal diseases, as well as from its effects in simple inflammation. It is also on account of the acknowledged value of mercury that turpentine, although recommended fifteen years ago, has not yet had a fair trial. The practitioner, in simple, recent, uncomplicated cases, naturally prefers the medicine he has known to succeed under similar circumstances, and only resorts to the other where he finds that the former does not succeed, or that for some particular reason he cannot employ it. Influenced myself by such considerations, I cannot say that I have fairly tested turpentine as a remedy in the treatment of inflammation of the eye, except as an auxiliary or resource in the failure or unfitness of mercury, to which extent I can bear testimony to its value. This being the case, I consider it best to quote the arguments and statements in its favor offered by Mr. Hugh Carmichael of this city, who first called attention to it in an essay on the subject published in 1829:

"The attention of the profession has been in so many instances directed to the administration of turpentine in peritoneal inflammation, that the claims of that medicine to our notice, as a valuable remedy in this complaint, may at present be considered fully established. The number of cases recorded in the different periodical journals which have yielded to its exhibition, render it unnecessary here to make any further remark on the subject.

"If we observe the nature of the parts which are the seat of peritonitis, the description of inflammation that engages them, and the subsequent morbid appearances, and compare all these circumstances with those to be met with in iritis, strong grounds will, I think, appear for presuming that in many points a striking similarity may be traced between them; in both a serous membrane is engaged, and in both the adhesive inflammation is to be seen producing adhesions between surfaces intended by nature to be free. It is true that the two diseases occur in parts of the body very different from each other in many respects; and it is likewise true that this material difference is supposed to exist between them—namely, that while peritonitis is a simple idiopathic disease, iritis on the contrary, in its different varieties, but particularly in that which follows syphilis, is thought to proceed from a peculiar constitutional taint, and consequently to participate in its peculiar nature: but even admitting this difference, their characters nevertheless unquestionably coincide in these essential points, that in each the adhesive inflammation, and its consequences, are the morbid appearances to be observed.

"Under this impression I was induced to make trial of turpentine in iritis, conceiving that where such similarity of appearances were met with, as those just mentioned, a medicine possessing any control over them in the one situation, might probably be productive of some benefit in the other; a few cases were, therefore, submitted to its influence, and the results were such as to confirm the idea I had formed: the first trial was in 1824.

"I use the turpentine in this complaint in drachm doses, given three times a day. Its disagreeable flavour and nauseating effects I have found best obviated by almond emulsion. This circumstance it is very necessary to attend to, the medicine being so unpleasant, that, if its taste be not in some way disguised, it is difficult to depend on patients taking it with the necessary regularity. In the formation of the emulsion, if double the quantity of confection directed in the London pharmacopœia be employed—that is, two ounces to the half-pint of water, it answers the above objects much better: the residuum may be removed by straining.

"With an emulsion so made, the following is the formula I now generally adopt:

℞ Olei terebinth. rectificat. ℥i  
Vitelli unius ovi tere simul et adde gradatim.  
Emulsionis amygdalarum, ℥iiij.  
Syrupi corticis aurantii, ℥ij.  
Spiritus lavandulæ composita, ℥iiij.  
Olei cinnamonomi guttas tres vel quatuor.  
Misce, sumat cochlearia larga duo ter die.

"In a few cases it has been necessary to increase the quantity of turpentine to an ounce and a half, or two ounces, in the above mixture, the other ingredients being proportionally diminished, so



that a drachm and a half, or two drachms of it may be taken each time; but in general, when administered to the extent directed in this formula, it has very seldom indeed failed, though extensively tried, and in very urgent cases: the instances of its failure shall be presently noticed.

"The stranguary, so frequently induced by the internal use of turpentine, is obviated by the usual means—flaxseed tea and camphor julep: when very urgent, the medicine may be suspended for a time. The tendency to acidity in the stomach, which it sometimes causes, is relieved by the addition of carbonate of soda to the mixture; ten or fifteen grains to the eight ounces will be sufficient; some patients have said, the taste was further disguised by this addition.

"When the local inflammation is high, and acute pain is present in the eye and side of the head, the abstraction of blood from the temple, by cupping, or the more immediate seat of the disease, by leeching, may be resorted to: the same practice is adopted where mercury is used. Nevertheless I have frequently, when these symptoms were very urgent, relied solely on the turpentine mixture, and with the most decided and expeditious relief; indeed in some instances, where the pain and hemicranium existed as acutely as they are perhaps at any time to be met with, patients have declared they were considerably relieved after they had taken it once or twice, and that its subsequent exacerbations were lessened in a very remarkable degree. It is in the former cases I have generally found it necessary to follow up the bleeding by increasing the quantity of the turpentine.

"It is highly necessary to observe, that the condition of the bowels will require attention; the beneficial effects of the medicine appear to be in certain cases suspended when constipation is present, and are called forth, as it were, when this is removed.

"Perfect rest, if not absolutely material, will at least be found most conducive to the complete production of its salutary effects. In a few cases where patients, from their particular situations in life, were obliged to continue in active employment, the same satisfactory results did not follow its exhibition, nor was its influence fully established until this was attended to.

"When all the other symptoms of the disease have subsided, except a slight remaining indistinctness of vision, I do not consider it necessary to continue the medicine farther; some time is generally necessary for the complete removal of this; but the powers of the system may be relied on for its accomplishment. Wherever I had an opportunity of examining patients who had been dismissed with this indistinctness of vision, I have always found them to have been quite relieved from it a short time after they were so discharged.

"In some of the following cases, particularly the first of them, it will be seen that sedatives were employed along with turpentine, such as opium, henbane, and cicuta; but it is almost needless to add, that they could not have any share in the cures which took place in these cases. The same description of medicine—namely, opium, is also used, and pretty extensively, when mercury (calomel) is the treatment adopted; but the removal of the disease under it is entirely attributed to the latter, the former being conjoined with it for the purpose of detaining it in the alimentary canal, and thereby promoting its absorption into the system; or it may also have the effect of allaying severe pain, and with which view they were exhibited in the cases they were here employed in; in this way they may sometimes be serviceable.

"By these means the administration of turpentine has very seldom indeed failed in effecting a perfect cure, the amendment being generally quite perceptible the day after it had been commenced with, as may be readily conceived, from the well known quickness with which it pervades the system: I must, however, observe that, in a very few instances it was not attended with such marked success; and, although in my own opinion, its failure in them may be attributed to other causes than its inefficacy, I consider it right, however, to notice them here.

"In the syphilitic, as already remarked, its effects appear to be most decided; I mean when accompanied by those symptoms already mentioned, and which are considered as characterizing that species of iritis, relying very much on it in those attended with low and partial inflammation of the sclerotic coat.

"On the other hand, in a few cases where this inflammation was very acute, of a florid red colour, deeply and extensively engaging that membrane, the conjunctiva also inflamed, so as to form a network of vessels, obscuring more or less the former tunic from view, and instead of forming the zone, already mentioned,

at a short distance from the cornea, encroaching thereon, I did not succeed in completely removing the complaint by its administration, though it certainly arrested its progress.

"Again, in that description which occurs after fever, it sometimes was not satisfactory in its results. However, in making this statement, I must remark, that in many cases attended by the above appearances, it has effected a perfect and decided cure, and in several of those following fever, when mercury and all other means were unsuccessful, its removal was ultimately accomplished by the use of turpentine alone.

"But in speaking of those few unsuccessful cases, I have to observe on the difficulty so frequently experienced in dispensary practice, where I principally made my observations on this subject, in having our directions attended to with that strictness which may enable us to form correct opinions on the effect of any medicine. I have witnessed this negligence even in hospital practice, and had some doubts of the result for a time, till close attention discovered the medicine was not regularly taken by the patient, and on enforcing its administration in the mode I directed, the usual beneficial consequences followed; I am therefore led to imagine in those cases where turpentine did not succeed, that its failure is to be attributed to neglect on the part of the patient, rather than want of efficacy in the medicine; for without this explanation how can we account for the very same description of cases being attended in others with decided and complete success. If, however, the fact be, that some cases are not quite amenable to its influence, I am at present unable to make a distinction further than I have stated: perhaps future trials may enable me to be more explicit. Can idiosyncrasy be the cause, rendering the turpentine in these particular cases less efficacious than what it generally is?

"However this may be, in introducing to the profession a description of treatment which is novel in the disease, I think it necessary not only to give a full account of the manner I have conducted it, but likewise the true results derived from it, according to my experience; and I have therefore stated, that in some few cases (and these very few) the administration of turpentine was not attended with the decided success I generally found it to obtain in others, and have also described the appearances which presented themselves in the unsuccessful cases.

"The great error generally committed by persons bringing forward any new mode of treatment, or medicine, is a too sanguine description of its supposed powers, the representation of which is sometimes found not to be supported by experience. The consequence of this is, that, if upon trial it does not uphold the exact character for which it has been attempted to be established, it not only falls into disrepute, but may not even be allowed the credit it fairly possesses, whereas, had correct statements been made of its defects as well as of its merits, future investigation would ascertain how far it could be trusted, and thus remedies, though not general in their application, might, with much advantage and benefit, be retained as adjuvants in the cure of certain diseases.

"Although, therefore, I have found the administration of turpentine in cases of iritis generally, to have been attended with very extensive success, and far beyond what would entitle it to rank as an assistant in its cure, still, as in some cases which were submitted to it, the same satisfactory results did not follow, I think it but right to mention it here in the manner I have done."

#### CASE OF RUPTURE OF THE HEART FROM FATTY DEGENERATION OF THAT ORGAN.

By R. H. MEADE, F.R.C.S., of Bradford, Yorkshire.

The subject of this case was an old gentleman, aged 88, very strong and active, and who had walked to church (a distance of half a mile) and back again, on the morning of the day he died. He went to bed, feeling as well as usual; but on the servant taking leave of him, she noticed an unusual appearance in his countenance, and heard him gasp once as if for breath. She immediately called for help, but he never moved or breathed again.

*Post-mortem Examination.*—Lungs were quite healthy; the pericardium covered with much fat, and when opened was found distended with blood, separated into serum and clot, to the amount of a pound. This was found to proceed from an irregular jagged opening at the lower and back part of the left ventricle, near the apex of the organ. The muscular texture of the heart around this was so soft and altered in structure that it would not bear

the pressure of the finger. It was of a dirty yellow colour, and at the first view looked like softened tuberculous matter; but on closer inspection was found to consist of a fatty substance. The lower part of the ventricle, in which the rent had taken place, bulged out so as to form a sort of pouch. The heart presented no other important alterations; but it was generally loaded with fat, and the muscular texture was pale and flabby.

The coats of the aorta, as well as the mitral and aortic valves, were partly ossified, but not to a degree to interfere materially with their action. An interesting question, the author observes, in connection with this case, is—how long the disease had existed before the rupture of the heart occurred, and whether it could have been long present without giving rise to symptoms? He states he was in attendance on the patient two months before his death, for some weeks, when he had cough, and complained of weakness, with constant noise in his head and ears. The pulse was full, and had a jerking feel; but he did not detect anything unnatural in the sounds of the heart.—*Dublin Medical Press.*

## PHYSIOLOGY.

### PRECOCIOUS CHILDREN.

To the Editor of the *Boston Medical and Surgical Journal*.

SIR,—Dr. S. W. Shepard, near Lawrenceville, N. Y., sends me the following description of two precocious children residing in his vicinity. The cases are those of a boy and girl. Dr. S. says—“The boy is about 4 years and 11 months old. He is three feet and four inches high, and weighs fifty-eight pounds. His head is very large. He has considerable beard, as much as boys generally have at 19. His voice is a heavy bass. His intellect does not seem to be prematurely developed. In this respect he does not differ from other children of his age. His countenance is that of an adult—it has no childish look about it. His testicles and penis are of the usual size of the adult organs; the hair upon the pubes is long but thin. In fact, he appears like an adult dwarf.

“The girl I cannot describe so well, as I never was allowed an examination. She is 3 years and 7 months old, rather large of her age. Her mammae are preternaturally developed. In this respect she has the wonted appearance of a girl of 18.” The doctor has been unable as yet to find out whether or not the girl menstruates. He adds, “Their animal desires are fully developed; as a proof of this, they are often seen in the act of coition.”

I have only to add, that I know Dr. Shepard to be perfectly reliable, and that his report of these cases agrees with that given me by others. The cases are, I believe, without parallel—all their peculiarities considered. If they are worthy of publication, please give them a place in your widely-circulated Journal.—As ever, yours, &c.

Castleton, Vt., June, 1846. MIDDLETON GOLDSMITH.

## MIDWIFERY.

[We copy, from the *Boston Medical and Surgical Journal* of the 19th inst., the following cases, furnished to it by Dr. Badgley, of this city. Dr. Badgley has not seen fit to make this Journal the medium of his communication to the profession, but that is no reason why we should not enshrine his production in our columns for the benefit of the profession in this country who may not receive our contemporary. At the conclusion of his first reported case, Dr. Badgley, it will be observed, has drawn certain “inferences.” The inference which we have irresistibly drawn from perusing them, as well as the premises on which they are based, is simply this, that it was Dr. Badgley's plain duty, as it is that of every medical man, more especially of one occupying the very important position of a lecturer on the Principles and Prac-

tice of Medicine in a School of Medicine, to *proscribe* the use of *nostrums* or quack medicines *in toto*, instead of countenancing their employment by *prescribing*, as Dr. Badgley has done, a system of regimen, with collateral measures to be observed during the administration of such remedies, “of the nature of which little is known,” and which he had too good grounds for believing “must be ranked among the narcotico acrid poisons.” The case which Dr. Badgley has detailed, is an instructive one, at least in one respect—it will serve to convince the community at large of the danger which they encounter, in swallowing, with the avidity for which they are notorious, and in defiance of repeated warnings, quack remedies, or patent medicines, whether in the shape of Life Pills, Pulmonary Balsams, or Cordials, &c.—Eds.]

### CASES IN PRIVATE PRACTICE.

By FRANCIS BADGLEY, M.D., Fellow of the Royal Medical and Chirurgical Society, London, and Lect. on the Principles and Practice of Medicine in the Incorporated School of Medicine and Surgery of Montreal.

(Communicated for the *Boston Med. and Surg. Jour.*)

I. Case of *Apoplexy, with fatal termination, from the injudicious administration of Fahrenstock's Vermifuge*.—Miss —, æt. 9 years and 11 months, a beautiful child, of sanguine temperament, had always enjoyed perfectly good health. From appearances manifested for some days prior to her being subjected to the remedy, it was conceived that she was suffering from worms; she had, during the last summer, taken the same medicine under similar circumstances, with apparently good effect. Two bottles of the vermifuge had been administered in divided portions daily, for four days, she had been kept from animal food, and had taken no other medicines.

On Saturday, the 20th of June, she exhibited something peculiar in her manner, not distinctly comprehending, as it would seem, what was said to her, and mistaking one thing for another; but from the natural liveliness and playfulness of her character, this was not calculated to attract any particular notice.

At 5 o'clock, on the morning of Sunday, the 21st, her mother was aroused by her nurse informing her that Miss — was in great pain, screaming from its severity. The pain was complained of in the stomach, and from her having been kept on low diet, while she was taking the vermifuge, some wine was given to her with apparent relief. She almost immediately afterwards, however, fell into a state of stupor, which so much alarmed her parents, that they sent for a physician in the neighbourhood. This gentleman, although not in civil practice, promptly and most kindly attended, and having learnt the history of the case, ordered sinapisms to be applied to the legs, stimulating frictions to the vertebral column, and an enema to be administered. He then took his leave, recommending the parents to send for their ordinary medical attendant, and offered, as his opinion, that the little patient would in all probability, in the course of a few hours, awake from her then lethargic state, as the effects of the remedy would, it was likely, by that time be exhausted. About noon she had so far recovered, apparently, from her state of insensibility, that she recognized her mother and father, embraced them, and even masticated a morsel of bread that had been put into her mouth. She soon relapsed into the same comatose state in which she had been in the morning. I was sent for at half-past 1 P.M. On entering her room, I found her in bed in a state of complete coma; no stertorous breathing, but occasionally a deep sigh; the pupils movements of the fingers; skin natural; no heat of head; features calm; face pale; occasional borborygmus; bowels confined; pulse 120, weak and fluctuating. I ordered fresh sinapisms to the feet and legs, and a long one from the nape of the neck to the last dorsal vertebra; hot fomentations to

much dilated, with now and then very slight convulsive the chest and over the epigastrium, and bottles of hot water between her knees; burnt brandy was administered every ten minutes by the mouth, and an enema of castor oil and spt. turpentine was thrown into the intestines.

Feeling fully sensible of the perilous position of my little patient, I requested a consultation. Dr. Crawford met me. In addition to the counter-irritation already made, a mustard poultice was applied to the epigastrium, and a mixture of spts. æther sulph. and spts. ammon. aromat. given internally, alternately with the brandy. The enema was repeated.

She continued in much the same state until about 8 P.M., when feeling a slight sensation of heat in the head, the pupils apparently disposed in the least degree to contract, the bowels having once been moved and urine passed, I was led to fancy that re-action might set in, and as her residence was at some distance from the city, wishing to be prepared I sent off for a dozen leeches, which, from re-action having commenced by the time they were brought, I immediately applied, assisted by Dr. Crawford, to the temples. The blood abstracted by the leeches and subsequent hot fomentations, was considerable in quantity; pounded ice was now applied to the top of the head, a blister to the nape of the neck, five drops of croton oil diffused over the tongue and fauces, and another enema, the same as before, but containing several drops of croton oil, thrown up into the intestines. The convulsive movements noticed in the fingers, during the early part of the day, had become increased in force, attacking the muscles of the face, neck, back, and extremities, and at about 4 P.M. were so severe, that ice cold water was poured upon the head from a height of about four feet, but without any benefit. After the leeching, they became less frequent in their paroxysms, and were most strikingly noticed in the muscles of the neck and back. The only result of the latter part of the treatment in this case, was the return of the features, which, with the setting in of re-action, had become puffed and purple, to a perfectly natural hue, and the breaking out over the surface of a general perspiration.

Miss ——— died at 4 A.M., on Monday, the 22d of June. No *post-mortem* examination could be obtained.

The inferences deducible from the above are, in my opinion, the following:—

1. That this preparation, of the nature of which so little is known, must be ranked among the class of narcotico-acrid poisons, producing its effect primarily upon the stomach and small intestines, and secondarily through the ganglionic system upon the entire cerebro-spinal axis.
2. That its effects from accumulation must be guarded against in the same manner as those of digitalis, &c.
3. That oleaginous purgatives should be combined with it, and that the absorbent system should not be excited by a system of low diet being enforced during the time of its administration.
4. That the manner in which death occurred in this case, was clearly that, which would be referable to Bichat's "death commencing at the head."

II. *Case of Pregnancy, unaccompanied by any of the ordinary signs of this state, in a woman already the mother of three children.*—Mrs. Franklin, æt. 25, of middle stature, a nervous temperament, the mother of three children, had always enjoyed good health prior to her marriage, five years ago. Had had natural labours with all her children. On the occasion of her last confinement, the midwife who attended her was under the necessity of removing the placenta in consequence of adhesions. For some time after this labour, she suffered a good deal from pains in the thighs and legs, and remarked that the lochial discharge was not so abundant as on previous occasions. Her youngest child is now (the 21st May) nearly ten months old, and has been weaned nearly six weeks.

Just about the time of weaning her child, she was seized

with a bloody discharge from the vagina, which continued for two days and nights, then ceased; at the expiration of a week it returned, lasting for the same length of time. These discharges have returned with regularity ever since at similar intervals, and lasted the same period. When called in to see her, I found her in a pool of blood which had issued from the uterus. I prescribed for her two scruple doses of the diacetate of lead with a little vinegar. There was a tumor of a fig shape, flattened in front, extending from the symphysis of the pubis to the middle space between the navel and the ensiform cartilage. The hand could be easily passed behind the cornua of the tumor and its base. Had had none of the usual signs of pregnancy; the mamillæ were particularly flaccid; the areolæ pale and without the appearance of surrounding papillæ or congested cutaneous veins. No placental bruit could be heard either immediately or mediately. The os tincae was natural, as a matter of course retracted upwards and backwards. Had taken acid medicines and castor oil. A dose of the latter she had taken in the morning.

22d.—Had some discharge during the night, but much less than usual; has more the appearance of menstrual and other blood mixed, than ordinary blood. Complaints of weakness; pain at the top of the head. The bowels have not been affected by the castor oil taken yesterday. I ordered an enema to be administered. At my second visit, found the midwife, who had been sent for to carry out my instructions, and who expressed to me her conviction that there had been a miscarriage some weeks since; that she had at that time been sent for, and was perfectly satisfied that such was the case. She (the midwife) was a person of great experience, and practice, and, moreover, a sensible woman. Therefore, I admit, that I was influenced by her report. I plugged the vagina with pounded ice, and applied cold cloths to the vulva and a general bandage.

There was much less discharge on the next day, pain in the back induced only by considerable direct pressure on the tumor, or when the mass is moved from side to side. I conceived either that the tumor was caused by a collection and retention of blood oozing from an abraded surface on the interior of the womb, or that there was a quantity of menstrual blood which could only partially escape through the cervix and os uteri. The bandage round the pelvis was adopted, and a mixture of the supersulphate of magnesia in infusion of quassia was ordered.

From this state, the tumor gradually diminished, although with continued moderate discharge until the 28th, when I suggested to her husband the propriety, in the early part of the ensuing week, of taking her to the country. The very next day he took her by steamboat to a small watering place a few leagues from the river, with her two children. She took off, before starting, and left behind her, her bandage. She was a good deal fatigued with attending to her children, and the journey. She felt the tumor increase suddenly, had another discharge of blood, and returned forthwith to town. I did not, however, see her again until the afternoon of the 8th June, when she called at my house, distant from her own residence nearly a mile. She had all the appearance of a woman in the seventh month of pregnancy. I sent her home, and called upon her the next day. Found her in bed, made a minute examination, and requested a consultation. Drs. Arnoldi and Crawford (the former my colleague, and Professor of Obstetrics in the School of Medicine) met me at 3 P.M. Dr. Crawford and myself were of opinion that the tumor was attributable to retained blood. Dr. Arnoldi thought that he could distinguish a solid body in the cavity of the womb. The stethoscope was again used by us all, with the same results as when I employed it early in the case. Although there was a slight difference of opinion as to the nature of the tumor, we were perfectly unanimous in our treatment, that ergot should be administered, and should that not suffice to cause contraction of the womb and the expulsion of

its contents, a bougie should then be introduced. I prescribed for her three powders containing 3 ij. of fresh and very excellent ergot, combined with the same quantity of sub. borat. sodæ. She took them in the course of the next forenoon. Each dose caused nausea and vomiting, but not for a considerable time after it had been swallowed. She did not suffer from the usual pain elicited by the remedy, and passed a tolerably easy night, sleeping a good deal. The next morning, as agreed upon in consultation, I proceeded to introduce a large-sized flexible metallic bougie, but immediately on passing the cervix uteri, a sensation being communicated to my hand, of the extremity of the instrument striking against a solid body, I desisted forcing it on any farther. There was no discharge of blood from this operation. Designing to return the following day with Dr. Arnoldi, and to renew the operation if required, I stated my intention to her husband. He begged of me to allow him to fetch Dr. A. at once. After a good deal of arguing with him, I at length yielded, and waited his return with my friend. I related to him what I had felt; he took the bougie and introduced it to its full length. This operation induced no great pain. We prepared her, however, for them. Ordered for her a dose of castor oil and spt. turpentine, and an anodyne if required. She took the former in the course of the evening, but from having no pains did not require the other. The succeeding day, she complained to me of severe pain in her back and belly, accompanied by a good deal of forcing. In the course of the day, she passed clots of blood to the extent of nearly two quarts. The pains became aggravated towards night. Saw her again at 8 p.m. Had passed more clots; was in violent pain, like that of labour. I gave her the anodyne draught.

I had scarcely reached my own house, when another messenger came to me, stating that my patient was bleeding to death, and that my attendance was urgently required. I met on the way, and took up with me, my friend Dr. Arnoldi; armed with sugar of lead, ergot and opium, we entered the room. We found the woman lying on her back, pale, but perfectly composed and calm. A woman on the bed beside her, accosted us by expressing the fright which she had herself had, "for the child was born." The poor woman's fear had not been greater than was our surprise, inwardly felt and talismanically communicated to each other. The child was born, but the placenta was not yet detached. The removal of this occupied only a few minutes. The fœtus was a male of about eighteen weeks. From its external appearance it had been dead several days. The patient had slight after-pains, but went on perfectly well up to the time when my attendance ceased.

Is the above case to be looked upon as a case of partial placenta prævia? Or is it to be attributed to an oozing and gradual deposition, with coagulation of blood between the inner surface of the uterus and a portion more or less considerable of the decidua reflexa? One valuable lesson is to be learned from it, at all events—never to offer in positive terms a diagnosis, where there is any complication.

Montreal, July 14, 1846.

## SURGERY.

### CLINICAL LECTURE,

By **CASAR HAWKINS, ESQ.**, Surgeon to St. George's Hospital.

1. *Fibrous tumour of the upper jaw—Epulis.*
2. *Fibrous tumour of the palate.*
3. *Case of warts, nevi, and serous cysts.*

I have placed before you, gentlemen, to-day, the preparations from two cases which you saw operated on on Thursday last; one of them is a fibrous tumour of the palate, removed by Mr. Keate; the other is a fibrous tumour of the upper jaw, which I removed myself; the latter is called an epulis, as being like the

gum, and partly growing from it, and I propose to make this disease the subject of our first consideration; looking upon it, however, as essentially the same as Mr. Keate's tumour of the palate and not as a disease, strictly speaking, of the gum alone, as you might understand from its name. I will read you the history of the first case:—

I. Mary Tyrrell, æt. 30, was admitted, under my care, on the 8th of this month, with a tumour, about the size of a large walnut, or rather larger, of an irregular form, growing from the alveolar process of the right side of the upper jaw, and attached, to all appearance, by a broad base, to that process, in a space intervening from just behind the canine tooth, as far back as the last molar. The tumour is vascular, and at times painful; a portion of it projects internally from the attachment of the alveolar process, and lies (as ascertained by the probe) in contact with the mucous membrane of the hard palate, but is not attached to it, whilst a smaller portion, also unattached, turns upwards over the middle of the external surface of the maxillary bone. The surface of the tumor below this portion is vascular and ulcerated, and projects downwards, and lodges, when the mouth is closed, upon the dorsum and side of the tongue. Although the jaws can be closed, the tumor very much impedes mastication and deglutition; it never bleeds, and is painful only at times. Her health seems to be good.

She has been subject to toothache on that side for the last two years, and at the beginning the pain was very severe; when the tooth had perfectly loosened from its cavity in the socket, a small lump appeared, about the size of a pin's head, on the outer side of the gum, in the situation of the second bicuspid or first molar tooth; she picked it off, but in one or two months it appeared again in the same place, and has been since growing to its present size; she had one bicuspid and a molar tooth removed by a surgeon about three months ago, which were sound and not loose, according to her account, and a decayed stump was also extracted a day or two after her admission. The tumor has much increased in size lately.

It is said by some surgeons that epulis is more common in the lower jaw, but there are before us several specimens of the disease from either jaw, and I have myself seen and operated, I think, on nearly an equal number in the upper and lower jaws; so that I do not know that it is more frequent in one than in the other.

It is said, also, that this tumor is generally seen in children & young persons; I have myself seen it several times in children, but the majority have been adults like our present patient, and like several of those from whom the tumors on the table were removed—30, 40, or more years of age; it is probable, therefore, that there is nearly an equal number of young persons and of adults subject to its formation.

If you examine the tumor on the table, you will perceive that it is solid and firm, and distinctly fibrous, both to the naked eye and under the microscope, the fibres in the centre being evidently nearly perpendicular to the surface of the socket from which it derived its origin; the fibrous structure is most dense in the centre, and becomes softer and mixed with more granular structure towards the circumference, where it is covered, by the mucous membrane of the gum, which is in some parts warty and very irregular. When you remove such a tumor, you may find the surface of the bone from which it grows scabrous and irregular, or with spiculae projecting into the base of the tumor, the bone itself being hard and dense, so that you find it useless to endeavour, with a sharp chisel (as I tried in vain in my patient,) to shave off the outer surface of the bone. In the other tumor removed by Mr. Keate some spiculae of bone projected into it from the bony palate; its fibrous tissue is, however, rather less dense than in the one from the alveolar process, and the mucous membrane of the palate seems quite free from attachment to it, instead of being a part of the tumor, as in the epulis.

Sometimes, as you would expect in a tumor essentially connected with the bone or periosteum, you have spiculae of bone in the centre of the tumor, separate from the surface of the bone. Here, for example, is one attached only by a pedicle to the gum, in the centre of which is an osseous nucleus. The natural course of change of all fibrous tissues in their transformation, is to have a deposit of bone, as you may see in fibrous tumors of the uterus, or other parts; *a fortiori* you might expect that fibrous growths of the periosteum or bone would have a tendency to some osseous deposit. I regard what is called epulis, as a fibrous tumor of the bone, generally of the surface of the bone, which presents much of the appearance of the gum, because it grows into the gum

and all tumors are inclined to resemble in their structure the tissues in which they form; there is a little difference, therefore, between these two fibrous tumors of the gum and palate, and between them and fibrous tumors of the cellular tissue or uterus, or glands, or skin. Look, again, at this preparation of fibrous tumor of the upper jaw, which was removed by Sir Benjamin Brodie, which has affected all the thickness of the bone; the outer part was to all appearance a tumor like that of our patient—an epulis; the centre is almost solid bone; and the interior, where it projects into the cavity of the antrum, resembles a mucous polypus, because the mucous membrane is changed on the inside, as the gum is altered on the outside, during the growth of the tumor; the disease having commenced, according to the evidence of pain in the centre of the bone, some months before it projected externally. And another confirmation of this opinion of the origin of epulis from the periosteum and bone is given by what you say in this very case of Tyrrell's, namely, that the tumor occupies the whole cavity of the alveolus, where there is no gum, and is quite fibrous in the centre; the circumference alone having the appearance of gum, where it approximates to that texture.

You may have remembered, what our notes specify, that the tumor was vascular; it was of a red colour like the gum, which is well seen in this drawing, which I had taken from the patient from whom I removed this round tumour with central bone; and you can press out the blood, and see it return again slowly as in the natural structure of the gum. Yet, although well supplied with blood, it often grows very slowly. I had this cast taken from a woman, 36 years of age, who was under Mr. Keate's care in the hospital, with a tumor of the lower jaw, which began as long as eighteen years previously, and it was removed five years afterwards, without having grown larger than a pea; it was removed again eight years after this, by a second operation, when as large as half a walnut; and in five years more had attained no greater a size than you now see; in the third operation a portion of bone was removed by Mr. Keate. In our patient the tumor became larger than in this case, in less than two years, and was rather unusually rapid, but still was little ulcerated or altered. As it proceeds, the tumor grows more rapidly, and is softer and more vascular, and ulcerates, and has irregularities from the pressure of the teeth; and the ulcers are liable occasionally to become sore and painful, and to bleed slightly, and form a fungous growth, something like that of a malignant tumor, and they are sometimes described as being carcinomatous.

I do not believe, however, that there is any reason to think that fibrous tumors, either of this or any tissue, have a carcinomatous nature; or that, even when they ulcerate extensively, and may be fatal from irritation, they have the power of contaminating the adjacent tissues, or of affecting the general system by absorption. In this drawing of a very large fibrous tumour of the uterus, or polypus as it is termed, you may see great vessels and cells in its interior, and the irritation of it destroyed the patient, but no part showed evidence of malignant growth.

This fibrous tumor has cells within it of some size, and the outer portion of an epulis, when growing quickly, may have a few cells developed, although in our patient there is only a little greater softness of the outer parts of the tumor. When not condensed, a fibrous tumor may have very large cysts, as in a case where I tapped a woman with what appeared like ovarian tumor, and removed fifteen pints of fluid, which proved on examination, to be secreted in a cyst of a large fibrous tumor of the uterus, which had several other cysts of a smaller size within it. In fibrous tumors of the interior of a bone, also, very great cysts are sometimes developed; but in the epulis even small ones are not common.

Our patient informs us that she suffered much from toothache before the tumor showed itself; and it seems probable that the irritation of unsound teeth may sometimes occasion the growth, as any source of irritation may do in other textures; but it does not appear that this is often the case, for it grows sometimes from the outside of the alveolus, away from the teeth, and pushes them aside, while they continue perfectly sound; and therefore the pain attributed to the teeth, and often leading unnecessarily to their removal with the view of curing the toothache, is really in many instances owing to the growth of the tumor, and not the tumor to the irritation of the teeth.

Like almost all solid adventitious structures, an epulis is not much influenced by any remedies you can employ, and as it occasions considerable inconvenience and deformity, as you have witnessed in Tyrrell, and as there is danger of its affecting more and

more of the bone to which it is attached, and may in time become unhealthy and ulcerated, its removal should be recommended at an early period. The steps necessary in the operation depend on the size and situation of the tumor, and its connexion with the parts around; but do not forget always to direct your attention to the bone itself as the source of the disease.

1. Suppose that the tumour affects one lamina only of the alveolus, either the outer or inner, with the socket perfect, and the teeth sound, and the base a narrow one; it may be sufficient to cut off the tumor down to the gum, and with a sharp chisel to shave off any little spiculae of bone which are prominent, and watch very carefully for any sign of unhealthiness in the granulations, and if there be any a day or two afterwards, to touch the surface of the bone from which they spring with nitric acid, or some other caustic, of which I will presently speak.

2. If the inner surface of one lamina is affected as well as the outer, so that the tumor pushes the teeth aside, or passes between them, so that the surface of the bone cannot be got at, the tooth or teeth must first be removed in order that the same proceeding may be successfully carried into effect. For example, this drawing and the corresponding preparation are from a patient of mine, a woman 40 years of age, in whom a tumor appeared between the left upper canine and bicuspid teeth, attached by a narrow pedicle just within the socket, ulcerated on the surface, and the gum a little diseased on each side of the root; it had begun two years and a half before, and nine months afterwards, when half its present size, it had been cut off, but grew again. I extracted the two teeth, which were separated, and excised the tumor and as much gum as was altered in appearance, and shaved off some of the outer plate with a chisel; once or twice afterwards the surface was touched with nitric acid, and I believe the disease was cured.

3. If both laminae of the alveolar process are implicated, so that the tumor rises from the bottom of the socket, caustic will not easily reach it so as to effect a permanent cure, though it may do so if freely applied; as, however, tedious exfoliation of perhaps more than is intended will occasionally follow the free use of caustic, a quicker and more certain cure is produced when there is a narrow but deep attachment in the socket, by removing a V shaped piece of the socket by means of a small key-hole saw placed on each side of the diseased piece of bone, the two incisions meeting at an angle as deep as appears advisable, and a pair of forceps will break off the portion when almost insulated. The remaining bone, when thus sawn, is too well supplied with blood to exfoliate, and it readily granulates so as to fill up in great measure the place of the bone which is lost.

4. If there is a still deeper disease of the bone between its lamellae, so that several of the teeth are loosened or displaced, and a swelling of the bone itself, or of one or both its coverings, indicates the formation of the tumor within the cancelli, it becomes necessary to remove a considerable piece, as in some of the preparations on the table, in order that no disease may be left behind. In the lower jaw, the whole thickness of the bone sometimes requires to be removed by two perpendicular cuts of the saw, which may be made to half divide the bone, and then strong bone-cutters will break through the remainder, more or less being first cut by the saw, according to the age of the patient and the hardness of the bone; and it is quite surprising how little deformity is created by the removal of a portion of the whole substance of the lower jaw. In order that the saw may be conveniently applied, appropriate incisions must be made in the soft parts; if the disease is situated in the chin, it may happen that the thickness of the bone is not too great, if the lower lip is lax and extensible, for the bone to be sawn and cut, and then dissected out, without any incision at all in the lip; and the same may be done in the centre of the upper jaw; but in most cases a semilunar incision is to be made below the chin, and the lip dissected up, for the saw to be applied through the opening, by which means the subsequent cicatrix is concealed by the dress to a certain extent. If the disease is at the side of the lower jaw, a curved incision is to be made along the basis, and the flap raised for the admission of the saw and cutting forceps, without interfering with the circle of the mouth, and the scar is much hidden by the cravat or the cap-string. In every case the teeth should previously be extracted, as the saw will be impeded by any fragment of the dental substance.

5. In fact, however, the simple fibrous tumor, when situated in the lower jaw, need very seldom be removed with the bone down to the base of the jaw, especially in adults, as the new growth extends deeply in the cancelli less frequently in them than in children. A girl, 15 years of age, was admitted under my care into

the hospital, with a spongy and ulcerated tumor of the right side of the lower jaw, extending from the canine to the last molar teeth, about three quarters of an inch broad, with indentations of the upper teeth upon it, looking as if all the molar teeth were buried in the tumor, but which, by her account, have never appeared. The swelling could be felt on each side of the jaw, as if reaching very near the basis, and it began about seven months before, having given her no pain. I removed it in the way that I have mentioned down to the basis as it did not appear, on consultation, safe to remove less, and the semilunar incision of the soft parts healed by the first intention, the loss of bone being scarcely perceptible. Yet if you examine the preparation, you will perceive that the fibrous growth did not extend much below the bottom of the alveolus, and I might, in fact, have lost the outline of the base of the jaw untouched. Generally the depth of the alveoli, or very little more, is all that is actually diseased, so that the removal of half an inch or three quarters of an inch in depth from the top of the socket is enough; but, at the same time, so little inconvenience is experienced by the loss of the whole thickness, that you should not hesitate to do so rather than incur any risk of a portion of disease being left behind.

The mode of operating in such cases as these is this: a perpendicular cut is to be made in the jaw on each side of the diseased growth to the full depth of the part which you intend to remove; then you make a horizontal groove in the bone by means of Hey's saw in a line at right angles with the former cuts, and then you can cut off the insulated portion of bone by cutting forceps without the risk of the bone breaking horizontally beyond the proper distance, the depth to which your horizontal cut extends being greater in proportion to the hardness of the bone. The cutting forceps often exhibited in the shops consist, like this, of two equal semicircles, with straight handles, like pincers, when, of course, it is impossible to get the branch within to the right place opposite the outer one; nor does the turning of the handles get them sufficiently out of the way of the teeth of the upper jaw; you can effect this object, however, by the inner branch being twice as long as the outer, by which means its inner extremity curves around the jaw to the proper depth within the mouth. Sometimes a cutting forceps, the branches moving like those of a pair of scissors, but somewhat curved, will answer your purpose, the bone, in either case, breaking up if the groove is made to admit one end of the forceps. A more effective instrument is this which I show you, recently made by Savigny, where two sharp cutting blades are placed opposite one another, one within and the other without the portion of bone to be removed, and then a handle turns a screw, which quickly forces the outer blade onwards in the groove made horizontally in the bone, and cuts it off with much power, and without any straining or irregular action of the hands, as in the use of the common cutting forceps; it is a very useful instrument in most cases of this kind, and removes the bone easily.

6. For the epulis of the upper jaw similar proceedings may be adopted, according to the size of the part to be removed, and incisions must be made according to the situation of the tumor; in the centre the lip can be raised without any external incision; at the side the cheek may be opened horizontally, or a flap insulated and turned upwards to expose the necessary extent of the bone. It is very seldom necessary, however, any more than in the lower jaw, to excise more than the depth of the alveolus, or a little more, by a V cut, or by the two perpendicular cuts of the saw, and the separation of the diseased part horizontally by the screw-cutting forceps, which I have shown you. Here is a preparation of the upper jaw, which was removed; yet even here, although the tumor half fills the antrum, you can perceive that the orbit plate might probably have been safely left.

Now let us apply these remarks to our patient, and see the reason of what I did in her case. It was obvious that the whole breadth and depth of the alveolus was implicated in the base of the tumor, since it overlapped both the palate and the outside of the jaw; but as there was no bulging of the bone above, it was not likely that more than the depth of the alveolus was affected. So much, then, must have been excised, to secure the patient against a return of the disease, but to make the necessary perpendicular and horizontal sections of the bone, an incision must have been made in the cheek, as the disease was too far within the mouth to be otherwise accessible. But then it was possible, by cutting off as much of the basis as could be reached, and subsequently applying caustic, that the origin of the tumor from the surface of the whole depth of the socket might be destroyed; and

if only the surface of the bone was affected, that the disease might never return. As, then, this plan was not unlikely, though not certain, to effect a permanent cure, and as when the disease, when it returns after being not perfectly removed, is often very slow in its progress, as I have already shown you, and as the nature of this fibrous growth is innocent, and not likely to be excited into rapid progress, as a carcinomatous growth is sure to be, by being meddled with without complete removal, I gave the patient her choice of what she would have done; and she decided, as I should myself have chosen, I think, to run the chance of the disease returning, and then having the more sure method of operation practised.

In the operation, then, I insinuated the flat surface of the knife between the palatine projection of the tumor and the palate, and afterwards between the outer overhanging portion of the surface of the jaw, down to the root of the tumor, which occupied the whole breadth of the alveolus from one end of the tumor to the other, completely filling the cavity. The base being thus cut off to the level of the socket, I next removed a stump of another tooth, which was now exposed in the root of the tumor, and endeavoured with a chisel to shave off the surface of the alveolus, but, as is generally the case, the bone was too hard for this object, and I therefore left it for the application of caustic the next day; and as a vessel of some size came out of the bone at the root of the tumor, and bled a good deal, I placed on it a piece of blue lint, and covered this with a pad of lint, which was kept pressed firmly by the teeth of the lower jaw.

The next day I conveyed some strong nitric acid, by means of a pointed piece of wood with a little linen tied on it, to the base of the tumor within the socket, till it bled too much for more to be applied on that day.

I used the nitric acid, but I do not know that it materially signifies which caustic you employ; but in such situation as this, within the mouth, you can more easily regulate the acid, as it does not spread beyond where you apply it, and even this effect you can directly stop by a little chalk rubbed on it. Potassa fusa, on the other hand, is very deliquescent, and is carried by the blood about the neighbouring parts, so as to injure them, even in spite of vinegar, which you should always have at hand to neutralize the alkali by means of a little sponge or lint on a forceps of stick. The actual cautery would also do for a superficial part, but not for the hollow of the socket, and I doubt whether the nitric acid would easily have acted on the bottom of this cavity. I should therefore probably have applied a little chloride of zinc on a piece of lint, and forced it in by a compress of lint, just as I checked the hæmorrhage by pressure, putting some soda or lime on the lint, to prevent the deliquescent salt from doing any harm. I found, however, when I next went into the ward, that the patient had gone home, impatient to return to her children, and perhaps rather frightened at the idea of the caustic being repeated, now that she has, as she thinks, got rid of the tumor. It is probable, therefore, that the disease will return, for which she will have herself only to blame, as she has been informed of the chance she has incurred.

11. The next case for your notice is a complicated one, which is headed *navi*, warts, and aquo-cystic tumor of the forearm; which you have seen in a young woman, Frances Connor, 17 years of age, who was admitted on the 8th of April, with this account, which I will read:—

She has a tumor, about the size of a large orange, at the upper part of the front of the left forearm, of a firm and solid texture externally, but presenting a very decided feeling of fluctuation internally. Above the tumor also is a small detached portion, circumscribed, of the size of a large nut, with a perceptible feeling of fluctuation on pressing it. It was, in fact, rather too tense actually to fluctuate, though the existence of fluid was probable. This tumor is subcutaneous, as proved by the motions of the muscles of the forearm being perfect, but the motions of the elbow-joint cannot be perfectly performed, as the tumor in front presents complete flexion. The skin covering the tumor is of a darker colour than that of the sound skin, and is covered with a few small warty tumors; the veins are distinctly seen passing beneath the skin over the upper margin of the tumor, but are not seen below this part. This tumor is slightly painful on pressure, and pains her much on using the arm.

At the lower part and front aspect of the forearm, and separated from the upper tumor by a distinct interval of an inch in extent, is felt an elastic mass of soft substance of several inches in breadth and length, and nearly an inch in thickness, and having



the same degree of solidity as in parts of the upper tumor, but not so painful. This also is subcutaneous, and the skin over it is covered in a much greater degree than the other tumor with a number of dark-brown warty excrescences, and spots of cutaneous nævi, of simple varicose vessels for the most part, the cuticle of which is very thin, so that they bleed from time to time spontaneously. The skin covering this soft tumor is of the same peculiar dark colour as the skin over the upper tumor, from the vessels in its substance and below it.

The whole of this is congenital, but the upper tumor was originally of the same thickness and feeling as the lower part; the lower tumor has remained stationary, while the upper has undergone a change.

This patient was at first admitted as an out-patient of one of my colleagues, nine months ago, for an attack of inflammation and much pain in the upper tumor, (which was supposed to be fat). This inflammation caused an increase of its size, but was relieved, and a fresh attack came on in March last, which has left it in the state described; the tumor has been blistered and leached, and the tincture of iodine and cold lotion were applied before her admission under my care.

Now, first, with regard to the warts present in this case; you saw that they presented the usual appearance of this growth of the papillæ, and that they were subject to the effects of inflammation of the skin, so that after I had induced inflammation by rubbing the cyst, they increased considerably in size, and were painful, and were disposed to secrete pus between their folds, and again that they lessened in size when the inflammation ceased. They gave no trouble, however, commonly, and to our patient their appearance on the arm was of no importance, and I did not think it worth while to do any thing farther, particularly as the caustics necessary to destroy so large a surface would perhaps have induced ulceration of an unhealthy character in the nævi below them, and when once begun in this structure ulceration sometimes spreads for a considerable distance; I have known the life nearly destroyed by an ulcerated nævus reaching as this does from the wrist to the elbow.

Next as to the blood-vessel disease, the existence of which was obvious from the colour of the subcutaneous structure visible through the half transparent cutis, which was itself also somewhat diseased, numerous varicose vessels being seen in points on the surface, their size varying from excitement or inflammation, and the increase of size from these causes ceasing, as soon as the inflammation terminated; you might have seen the points opened by abrasion, and you could squeeze out a portion of coagulum from the orifices again and again, as the vessels filled with blood; and this structure was evident both in the upper and lower swellings, and closely resembled the external appearance of a large nævi in this cast and drawing, in which the varicose points bled more than in this girl.

Now it did not appear to me that I was called upon to treat the disease of the blood-vessels in this case, which seemed much too extensive to be lightly meddled with, extending as it did over more than half the circumference of the forearm, and reaching nearly from the wrist to the elbow. It was a congenital affection which the patient had now had for 17 years, and in that time it had not undergone any perceptible increase disproportioned to the increased size of the limb; the tumors gave her no inconvenience, as far as this structure was concerned, except where the vessels came in points to the surface, but a drop or two of blood from them occasionally was of no consequence, and the little abrasions could be easily healed with a slight touch of lunar caustic, a piece of which I desired her to have in her possession when she left us, for herself to apply to them.

But the upper part had for nine months undergone some change, which had made it become painful, and prevented her using the arm freely in consequence of this pain, and the increase of size it had attained during that time. Let me, then, next make a few remarks to you on the structure of nævi, in order better to make you understand this alteration of the upper tumor, without my entering, however, in detail into the subject, and without any notice of their treatment.

First, then, you may have observed what are called nævi flammei; marks of various extent of the surface only of the skin, in which it is obvious that numerous superficial blood-vessels, chiefly capillaries, are enlarged and tortuous, and anastomose freely with each other; the disease being generally stationary even when covering the greater part of a limb, or nearly the entire surface of the body; varying in colour, however, so as to be bright red or

purple, according to the condition of the blood, or the state of the circulation. Sometimes you see a single point only of arterial blood, somewhat prominent, with vessels ramifying unaltered in structure around it, constituting nævi aranei; at other times, as in our patient, points of varicose veins only come to the surface, and sometimes in great number if there is also anything below the skin of the same kind.

Secondly, and more commonly, you meet with cutaneous or subcutaneous nævi, or a mixture of both, constituting distinct tumors of greater or less thickness, varying in colour as arterial or venous blood predominates, if the skin is affected, and generally purple or dark, when situated chiefly below the skin as in this patient. These nævi obviously consist in general of tortuous and varicose and dilated capillaries, embedded in a rather tough cellular tissue, and you can empty them, or allow them to fill at pleasure, by varying the pressure upon them; the coats of the vessels being perceptibly diseased, so that hæmorrhage from them is dangerous, while the vessels going to them and coming from them are in their natural state. Sometimes the veins coming from such a congeries of diseased capillary vessels are also varicose and dilated, so that you can feel them below the skin, just as in a case of varicocele; at other times one or more of the arteries going to them are diseased also, enlarged and softened to a little distance, pulsating visibly or sensibly, or communicating also a pulsation to the whole tumor; such an addition rendering them what John Bell has denominated aneurism by anastomosis.

But, in the third place, this surgeon has asserted that tumors of the blood-vessels of this kind have within them numerous cells, with which the blood-vessels have free communication, as in the natural structure of the gills of the Turkey cock, or the corpus cavernosum; and this description has been followed by Wardrop and other authors; and Dupuytren, following the same idea, has given the name of erectile tissue to these new formations, from their resemblance to the natural erectile tissues of the body.

The structure of nævi, whether pulsating or not, has been, however, a disputed question. Certainly I think, there is in general no such formation of cells, but the tumor consists solely of dilated capillary and other vessels. Even in a remarkable case, which occurred in the London Hospital, and has been described by Mr. Curling, where large external tumors communicated with great masses of similar character in the chest and abdomen, the disease examined on this great scale consisted only of blood-vessels of various sizes in cellular tissue.

But, in some few instances, there is an appearance of irregular cavities, which are probably dilated veins, communicating with the course of the undilated veins, as they contain coagula, and which have only the appearance of cells, when cut across, in the same manner as the tortuous vessel, folded in the vesiculæ seminiales, gives the form of cells to those bodies.

It is very seldom that an opportunity is afforded of examining a large blood-vessel tumor; I had the power of doing so in the case of which this cast gives a likeness, in which you see that the tumor was of several inches in diameter, and not less than two inches in thickness; it was congenital, but had much increased for some time before the patient, a boy of seven years of age, came under my care, and numerous vessels, which bled a good deal from time to time, had lately appeared in the cutis. I removed it by ligature, and in the section of the tumor on the table, and in the drawing also, you may see in addition to the usual vessels that several apparent cells exist. Now some of these cells were filled with coagulum; their structure appeared identical with the other veins, of which they constituted as it were aneurismal pouches. So that in this respect they resembled what has been described and figured by Bell and Wardrop.

There were, however, besides these, some other cysts, which contained only serous fluid, and which were to all appearance close shut sacs,—serous cysts; their size being about that of peas, one or two somewhat larger than this, and others smaller. Now all tumors may form cysts, particularly when they grow without pressure, as into a cavity; I have mentioned already even the fibrous tumor, dense as it is, having cysts, and even dilating so as to contain fifteen pints of fluid. In cellular tissue serous cysts often form; occasionally many in close proximity, forming a half solid cystic tumor. Such, then, had formed in the nævi of our patient, and dilated to a great size.

The existence of cysts in this case necessarily complicated the diagnosis in some measure, and you observe that the notes say the tumor had been supposed to be formed of fat, to which the elastic cellular tissue and vessels of a subcutaneous nævus bear certain



ly some resemblance; and probably at the commencement the quantity of fluid in the cysts was smaller than on the patient's admission, giving an elastic feeling to the cyst when half full, or an appearance of solidity if tense, instead of a sense of fluctuation. I remember a patient of Mr. Babington's, in whom there was similar obscurity, and on dissecting out the tumor, a small encysted tumor, of the size of a large nut, was found entirely surrounded by a thin layer of the structure of *nævus*.

The appearance of fluid, however, was quite distinct on her admission; but from the inflammatory attacks, which she was said to have had for some months, I was not quite certain that it might not be purulent; for a chronic abscess in a new growth, such as a *nævus*, might easily be without redness or other sign of matter. I believed it was a cyst, however, and on the 18th, when I had learned her previous history, I punctured the upper tumor with a grooved needle internally where the sense of fluctuation was greatest, and about half an ounce of straw-colored transparent fluid came away; and on the 15th it is stated that two small tumors had begun more apparent above the elbow by the lessened size of the chief cyst, and seemed also to be cysts. On the 17th I punctured the same cyst again, and let out six drachms of the same fluid, and I now rubbed the cyst a good deal in order to inflame it. On the 20th I again punctured it, as it was refilling, and rubbed it still more, as well as the small one above, which contained the same fluid as the other. The effect of this was, as the notes say, to make the tumor hot and red, and sore and painful; and the warts increased in size, and many spots of the vessels of the *nævus* were now seen on the surface of the skin like those of the lower part of the arm, and even these latter vessels became larger; but notwithstanding this, the fluid reformed in each of the cysts. I now therefore altered the plan in some measure, and on the 4th of May I again punctured the cysts with a needle, and rubbed them a good deal, and then I applied a compress over the tumor to bring the sides of the cysts in contact, and kept them so by a splint along the front of the arm, secured by stripes of plaster and a bandage.

This treatment has apparently succeeded in perfectly obliterating or curing the cysts; no inflammation now remains in them; the various vessels of the cutis and the warts have returned to their former size; there is no pain or inconvenience in using the arm, or handling the tumor, which is quite soft and elastic like the lower part of the arm, except at one spot, which may possibly be a minute cyst at the lower end of it, deeply situated; but as I punctured it without seeing any liquid, it may only be a little condensation of the cellular tissue in that part of the *nævus*, such as is often felt in such structures. I have directed her to come again in a fortnight to show herself, after she has returned to her employment, which she has not been able to follow for above nine months.

The cysts appear to be obliterated, as I have said, but it may be, perhaps, that there is only a new action excited in the sac, by which the tendency to secrete fluid is destroyed; just as it is with regard to hydrocele, in which it does not appear necessary to produce adhesion of the sides by means of organized lymph, though the membrane is not refilled after injection; at any rate, bring the sides of a serous cyst in contact, and even without inflammation the disease is sometimes cured, as I have seen in a cyst of the liver containing not less than three pints of liquid: still more may you expect a cure if inflammation be previously excited, as in our patient was done by friction.

Had not this plan succeeded, it was my intention to have made a larger opening into the cysts, and dressed them in with lint, which is another method of curing these serous encysted tumors, for sometimes it is necessary to obliterate them by suppurative inflammation, instead of the adhesive; indeed, an incision or a seton is not unfrequently required; as, for example, with encysted hydrocele of the cord, and what is called hydrocele of the neck, which can very seldom be cured by a less degree of inflammation. I was unwilling, however, in the forearm (indeed, you will seldom be justified in doing so in any part of the body) to resort to an incision till I had first proved that milder remedies would fail, because the inflammation of an abscess of any kind, in connexion with the numerous muscles and tendons of the forearm, is liable to cause much impediment to their freedom of motion; it seemed, moreover, particularly undesirable in this case on account of the connexion of the cysts with the blood-vessel tumor, as unhealthy suppuration and sloughing to some extent would very probably have followed it.

## MEDICAL JURISPRUDENCE.

### MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

#### CASE OF AN INFANT POISONED BY LAUDANUM—APPLICATION OF ELECTRO-GALVANIC SHOCKS—RECOVERY.

By Dr. MARTIN BARRY.

The case was that of an infant nine months old, whose mother had given it laudanum, "to put it to sleep" while she went out. The laudanum was part of a pennyworth bought for this purpose at a neighbouring shop.

The case was first under the care of Mr. Colahan, a pupil at the Edinburgh Maternity Hospital, who, however, was not called in until seven hours after the laudanum had been swallowed; and even then he was kept in ignorance of the fact that the poison had been given two hours later. The infant presented the usual symptoms of poisoning with opium, and emetics of tartarized antimony and ipecacuanha were given. Vomiting was produced and kept up by warm water; but of course, after so long an interval, not with the expectation of bringing back any of the laudanum. The infant at length sank into a state from which it seemed impossible to rouse it, and was then brought to the Maternity. The breathing of the child was very noisy, and the pupils were contracted to almost obliteration. Dr. Barry applied electro-galvanism, using for this purpose the apparatus made by Abraham and Danser, of Manchester. At first the mixture in the trough contained one-thirty-second part of strong sulphuric acid, the quantity of which was afterwards increased to one-sixteenth, and the pointer in the index was gradually brought round to the very strongest power. The wires were applied in turn to every part of the body, and the child was roused by their application, and kept awake, or at least kept moving an arm or a leg, so long as they continued in contact with it. When the wires were removed, even for a few seconds only, it sank sound asleep, the respiration continuing unchanged. At the end of about three hours, a little more susceptible, and perhaps somewhat more energetic in the movement of its limbs, but with this exception, the infant exhibited nothing like a satisfactory revival, until the tremendous current had been made to pass through its body for four hours and three quarters. Then, however, it really did revive, the respiration becoming more quiet, and the pupils undergoing some dilatation. From this time it recovered, required no further treatment, and in a few days was quite well.

In order to arrive at something like an estimate of the quantity of laudanum swallowed, Dr. Barry caused a pennyworth to be bought at the same shop. This was measured, and the quantity, one drachm and a half, compared with what was found remaining of the other pennyworth above referred to, allowance being made for about the same quantity of water said to have been added. Say, therefore, laudanum dr. iss. + water, dr. iss. = dr. iij., of which a teaspoonful is said to have been swallowed. There was found remaining less than two teaspoonfuls, the same spoon being used as that with which the child had been dosed. Thus, a drachm of the mixture had disappeared, half of which was laudanum, or say a few minims less than half a drachm, say twenty-five minims.

Dr. Christison remarked, that if the infant had really taken twenty-five minims, it was very surprising that it had recovered. He recommended Dr. Barry to ascertain whether the laudanum was of the average strength, as from numerous experiments he had made, he had found the quantity of opium to vary greatly in various specimens of the tincture.

The Secretary has since obtained the following additional particulars from Dr. Barry:—The laudanum given to the infant was procured at Anderson's, druggist, No. 147, Canon-gate. That about half a drachm was the quantity swallowed,

is rendered additionally probable by the fact, that at this shop the quantity always sold as a pennyworth is stated to be a drachm and a half, it being in every instance *measured*. At this shop they keep laudanum of only one quality, and never have two kinds. They have made no addition to their stock of laudanum for four months. A specimen which Dr. Christison had the kindness to examine, procured on the 2d of April, 1846, was taken from that stock, the same which supplied the pennyworth, some of which was swallowed by the infant two months before. Dr. Christison found that it contained a due proportion of opium. Dr. Barry also caused four separate pennyworths of laudanum to be procured at the same shop, at different times, and by different messengers, and in each instance the quantity received was one drachm and a half, or rather more, leaving no doubt of its having been measured. Some of the laudanum thus obtained Dr. Christison has also been so obliging as to examine, and he found it to be quite identical with the other. The woman who held the cup out of which the infant was dosed by its mother, declares that the teaspoon was quite full—that none of the mixture was left on the spoon—and that none of it was rejected by the child.—*Northern Journal of Medicine*.

#### EXAMINATION OF BLOOD-STAINS.

[We insert the following case from our English cotemporary, as it exhibits in a striking manner the great utility of the microscope in this department of medicine. Within the last few days this instrument has been similarly employed for the first time in this country, by our colleague, Dr. Hall, in the examination of the blood stains found on the clothes of Brady, who was tried for the murder of O'Rourke, the prize-fighter. In this case the blood had been deposited on the clothes about eleven months before the trial took place, and the clothes had every appearance of having been washed, although imperfectly. The chemical examination of the distilled water, filtered through the stains on the clothes, was unsatisfactory, but the microscope revealed the existence of the blood globule, in a most unequivocal manner. A few were noticed in an insulated state, while, in one experiment, a congeries of them was observed in the field of the microscope, having a compressed appearance.—Ed.]

The following evidence in reference to the character of certain marks and stains, from blood, was given in the re-examination of Benjamin Gibbins, who stands charged with the murder of Ann Sloman:—

Mr. Daniel Ross, surgeon, of High Street, Shadwell, who had given evidence before, was recalled by the magistrate. He stated that he first saw the body of the deceased woman about half-past eight o'clock on the morning of the second of June. From its appearance he should say the woman had been dead from four to six hours. He saw the prisoner directly afterwards. He had marks of blood on his jacket. His impression at the time was that the blood on the prisoner's jacket was arterial blood from its bright florid character. The blood on the right sleeve of the jacket appeared to have been squirted upon it.

Mr. Ballantine, (the magistrate.)—Could it have been after the death of the party?

Mr. Ross should say not. He believed the blood was squirted on the prisoner's jacket from a living subject. He had examined the jacket more accurately since the first examination. The result of that examination was that he believed the blood to be arterial, and that it possessed vitality at the time it was squirted on the sleeve. There were

splashes of blood on the prisoner's jacket, and his opinion was they were jerked upon it while the woman was alive.

Mr. Ballantine.—The prisoner has stated that in lifting the head of the deceased, after death, the blood fell upon his clothes.

Mr. Ross.—The appearance I saw could not have been so produced, and so long after death. I don't think it possible at all.

Dr. Henry Letheby, a physician, and professor and lecturer on chemistry at the London Hospital, was next called and deposed as follows: On Monday last I received from Sergeant Townson, of the police, a jacket, waistcoat, and trousers, and two paper parcels, one containing scrapings from a plaster wall, and one from the panel. I first examined the jacket, and found spots and patches of blood in the following places:—First, there was a large patch of blood interrupted by the folds of the sleeve upon the front and about the middle of the left sleeve; secondly, there were some other spots on the same sleeve nearer to the shoulder on the front part, some also in the inner part of the left lappel, other spots on the inside of the right lappel, and some on the back part and outer part of the left sleeve about midway between the elbow and the shoulder. On the waistcoat I found the following spots:—Several on the front and middle of the right collar, which was a turn-over one; some other small spots, as if from a jerk or a jet of blood, on the front on the right side, a little above the waistcoat pocket; and others much larger on the front of the waistcoat, as if from jets; lastly, there were two large spots on the waistcoat close to the upper button hole. Portions from all these was scraped off, and carefully examined by the microscope. Those upon the sleeves were found to contain blood-globules that could only be recognized by the microscope, imbedded in coagulated fibrin. The patch on the middle of the left arm also contained scales or scurf, similar to those found on the woman's scalp. There was a piece of brown hair also imbedded in it. The spots were further examined chemically. On scraping off portions and digesting them in water, little white *flocculi*, called *coagula*, and a deep pink solution were obtained. The solution had the following characters, proving it to be blood:—First, it had a pink colour, and that colour was not heightened or rendered green by ammonia, showing it was not a vegetable colour; it was rendered dark by sulphuric acid. It was also coagulated on being boiled, and gave a precipitate, or *flocculi*, with nitric acid, corrosive sublimate, and nitrate of silver. I then examined the scrapings from the wall. The mixture demonstrated the presence of *flocculi*, and *coagula*, and the rest being digested in water gave the same results as the former. The examination of the wood-scrapings led me to think they were not blood, but I will not speak positively as to that. On Tuesday morning I also received from Sergeant Townson a large piece of matting, marked with a large blood-stain, and a piece of wood similarly marked. On examining the blood on the matting by means of a microscope, I found it contained globules, but no coagulated fibrin; there were also particles of scurf, like those on the human scalp; the chemical examination proved the spots to be blood-spots. The examination of the wood also led me to believe there was uncoagulated blood but no fibrin in it. The conclusions I have come to by reason of the inquiry are these—1st., that the spots on the jacket, the waistcoat, the plaster wall, and matting, were blood spots; secondly, that the spots on the jacket, waistcoat and wall, resulted from living blood, while that on the matting resulted from dead blood, or occurred some time after life was extinct; thirdly, I conclude the blood came from the scalp, by reason of the scales; and fourthly, that many of the spots appear as if they had resulted from jets, and some from being rubbed on.

### ABSENCE OF ARSENIC IN THE FŒTUS, THE MOTHER HAVING BEEN POISONED BY ARSENIC.

In a recent case in Belgium, arsenic was detected in the fœtus carried by a female, who had been poisoned by arsenic. M. Benoist of Amiens, lately communicated to the Society of Pharmacy of that town the following case in which the contrary was found: to be the fact.

M. Benoist was charged with the examination of a young woman six months pregnant, who had poisoned herself by swallowing a considerable quantity of arsenic. The results of all his experiments perfectly demonstrated the cause of the mother's death. Not only was arsenic detected by means of Marsh's apparatus, but the poison was collected in substance on the internal surface of the stomach, and readily reduced to the metallic state.

The fœtus was at the sixth month of development, and was carefully examined in order to ascertain whether it had died in consequence of absorbing the poison which had destroyed the mother. All the experiments with Marsh's apparatus, however, gave a negative result. The combustion of the gas yielded by the apparatus was continued for upwards of an hour without obtaining a trace of arsenic.—*Dublin Medical Press*.

### TRIAL OF ELLIS THE WATER-DOCTOR

(Before Lord Chief Justice Tindal and Mr. Baron Rolfe.)

Dr. James Ellis, the proprietor of a hydropathic establishment at Petersham, surrendered to take his trial upon the coroner's inquisition for manslaughter. The inquisition charged that the prisoner, on the 29th of May, and on divers other days, made assaults upon Richard Dresser, and that he injuriously, rashly, negligently, and feloniously caused certain cloths, saturated with water, to be placed upon the body of the said Richard Dresser for a long period of time, and that he also rashly, injuriously, &c., placed him in a bath containing a large quantity of water, and that by these means he caused him to be mortally disordered in his body, and likewise occasioned a mortal congestion of the heart and lungs, of which he languished until the 2d of June and then died.

The inquisition likewise alleged that it had been taken in the city of London.

Mr. Bodkin and Mr. Huddleston conducted the prosecution; Mr. Cockburn, Q.C., Mr. Prendergast, Mr. Clarkson, and Mr. Hance appeared for the prisoner.

Mr. Bodkin briefly stated the facts of the case, and said, this was not a case of the ordinary description, where death was the result of violence; but the prisoner was charged with having occasioned the death by rashly and improperly treating the deceased in a medical capacity; and he, on the onset, would admit that there did not appear to have been any neglect of the deceased by Dr. Ellis, but that, on the contrary, he had treated him with great kindness and attention. Still, however, if he should make out that the death of the deceased had been accelerated by the improper treatment to which he had been subjected, it would render the defendant amenable to the present charge. The learned counsel then proceeded to state the facts of the case, and the following evidence was adduced:—

Mr. Thomas Hubert deposed that he had known the deceased thirty years, and he carried on in his lifetime the profession of an accountant in Eastcheap. Some time prior to the 29th of May, the deceased had complained of being poorly, but on that day he appeared to be suffering very much, and complained of severe rheumatic pain. Dr. Ellis came to the house the same afternoon at the request of the deceased, who told him he was in great pain, and he was glad he was come, as he thought he could do him good.

The doctor said, that if he had made up his mind to try his system, he would take him in his carriage to Sudbrook-park, Petersham, to his establishment that afternoon, and the deceased consented, and it was arranged that they should meet at half-past two o'clock, in Sackville-street, Piccadilly.

Cross-examined—Believed the deceased had known Dr. Ellis a considerable time, and he frequently heard him speak of him. The deceased was a great advocate of the hydropathic system, and had published a book containing cases of cures effected by it.

Mr. W. G. Dresser deposed that the deceased was his cousin, and he considered him a strong healthy man. He had an attack of jaundice about two months ago, but had perfectly recovered from it. He saw him on the 28th of May, and he then complained of sciatica or rheumatism in the hip, and appeared to be in very great pain, and he did not see him again until he was lying dead in the doctor's establishment at Petersham. He observed a quantity of froth had issued from his mouth, and that the flesh was nearly black under the eyes and behind the ears. He had some conversation with Dr. Ellis, and upon his making some observations relative to the cause of death, he said he did not die of rheumatism, but of hepatitis; and he allowed that he only admitted him upon his own statement, that he was suffering from rheumatism, and that if he had known he had any disease in the liver he should not have done so. Dr. Ellis then said he would give him a diagnosis of the case, and he afterwards handed him the paper (produced), and at the same time said he should be very glad to meet any medical man at a post-mortem examination; and expressed great sympathy for the widow of the deceased.

Cross-examined—Witness was aware that Dr. Ellis and the deceased had been on the most friendly terms for a long time.

Mrs. Harriet Dresser, the widow of the deceased, deposed that she went to Sudbrook-park the same evening her husband had been taken there by Dr. Ellis. This was on the 29th of May. About six weeks before he had had an attack of jaundice, but had recovered, and at this time he only complained of rheumatic pains. She had known Dr. Ellis for a good many years; he was formerly in the lace trade. She arrived at the doctor's between five and six o'clock in the evening, and found her husband in bed, and she understood that he had had a bath. She saw him again on the Sunday; he was in bed; and appeared very ill. At this time he had wet bandages and blankets round him, and a bath was brought into the room, and water put into it while she was there. She saw him again on Monday, and the deceased complained of his legs, and said they were perfectly useless to him, and she felt them, and found they were as cold as marble. The doctor came into the room, and she told him what her husband said, and he wetted the end of a long towel, and placed it to the stomach of the deceased. Before he did so he asked him if he dreaded it; and on the deceased replying that he did not, he placed it on him, and he said he did so because he was afraid of inflammation. The doctor then requested her to leave the room, as her husband was going to have a bath. She saw him again shortly afterwards, and she observed that his countenance was changed very much, and that he had great difficulty in breathing; and upon her calling the doctor's attention to these symptoms, and asking him what he thought of them, he said they were not desirable. Upon her taking leave of her husband and kissing him, she observed that his lips were quite cold. As she was about to leave the establishment she received a message from the doctor, requesting her to come to him in the grounds; and he then asked her if the condition of her husband were not satisfactory the next day, if she would like to have him removed, or to have further advice. Her husband was very anxious to

try the new system, and said he thought it would cure him.

Cross-examined—Deceased had suffered a good deal of pain before the 29th, but she thought he was better on that day.

Mr. Cockburn put a letter into the witness's hand, dated the 29th, and she admitted that it was written by her to Dr. Ellis at her husband's request. In this letter she had represented the deceased to be "prostrated by pain, helpless as a child, and unable to walk."

Cross-examined—The deceased could not walk, and he was assisted into the doctor's house. On Sunday he told her that all his pains had left him, and that he had been able, with the assistance of Dr. Ellis, to walk on the grounds of the establishment; and he also said, that if the doctor had been his brother, he could not have shown him more kindness. After her husband's body was brought home, a post-mortem examination was made by Dr. Waterworth, the medical gentleman who had been in the habit of attending upon the deceased, but no one was present on the part of Dr. Ellis.

Mr. Cockburn—Now my friend has asked you a question, which, I think, might as well have been spared, with regard to Dr. Ellis having formerly been in the lace trade. Are you not aware, madam, that he has been abroad and studying for the medical profession in foreign universities, and has undergone a regular course of attendance at the hospitals to qualify him for the duties of that profession?

Witness—I am aware that he has been abroad for several years, but do not know, of my own knowledge, that he was studying at any foreign university.

Mr. Charles Waterworth deposed that he is a surgeon, and resides in the New Kent-road. The late Mr. Dresser had been his patient, and he had known him for seven years. The deceased had an attack of jaundice about six months ago, for which witness treated him, and he recovered from it. In March he had a similar attack, but slighter, and he recovered in a few days. He should say that the deceased was a man who might be considered healthy, but he certainly was not a robust man, and his powers were feeble and his constitution languid. He made a post-mortem examination of the body of the deceased. He first examined the chest, and found blood exuding from the lungs, which were very much gorged with blood. The heart was also gorged with blood, and these appearances, in his opinion, sufficiently indicated the cause of death. The appearances of these organs accounted for the coldness of the body described by Mrs. Dresser, and the difficulty of breathing, which would be the symptoms of approaching dissolution from such causes. The diagnosis written by Dr. Ellis was given to him, and he compared it with the appearances presented upon the post-mortem examination. They only corresponded in one or two particulars, and there was no trace of the disease of hepatitis, which was stated by the defendant to be the cause of death, or any suppuration of the liver or viscera. He considered the use of baths and the application of cold water to have been highly improper to a person in the condition of the deceased, as they had a tendency to produce the congestion of the heart and lungs to which he had referred, and more particularly in a person in whom the circulation was languid like the deceased than in a person of vigorous constitution. He should also say that, in his opinion, the application of a wet cloth to the stomach of the deceased on the Monday, when he was in the condition that had been described, was highly improper, and in his judgment, taking into consideration the state of the lungs and heart of the deceased, such a proceeding was calculated to accelerate his death.

Cross-examined—Although he expected that the effect of the post-mortem examination would be contradictory to

the diagnosis of the case given by Dr. Ellis, he gave him no notice when it was to take place, and no one was present but himself and his partner, Mr. Hicks. He did not consider whether it would not have been fair to give Dr. Ellis an opportunity of being present at the post-mortem examination. He should consider that bathing applied to any part of the body of a patient in such a state would have been injurious and improper. He would not actually pledge himself as to the cause of death. It would be impossible to do so in such a case. The deceased was what might be termed a healthy man, but he did not mean to say by that that he was free from all malady. If the brain had been congested, it might have accounted for the congested state of the heart and lungs, but he did not open the head to see the state of the brain.

Re-examined—He should say that a bath at a temperature of 85 was too cool for the patient to be placed in, and the effect of such a bath would be to drive the blood from the extremities to the internal organs.

Mr. James Hicks, the partner of the last witness, who assisted in the post-mortem examination, said that the body presented all the appearances of a man who had been drowned. The face was bloated, and bloody serum issued from the mouth and nose. The lungs were enormously gorged with blood, and the heart enlarged and flabby. In his opinion, the application of cold water was highly improper in such a case.

Cross-examined—Before witness entered into partnership with Mr. Waterworth, he acted as assistant to a gentleman who had the medical charge of a large union in Hampshire. At the present time hardly a week passed but he was present at a post-mortem examination.

Mr. Cockburn inquired whether this happened from so many of his patients dying? (Laughter.)

The witness replied, fortunately not; but although he was in practice he took every opportunity he could of attending the hospitals, to witness post-mortem examinations, with a view to obtain all the knowledge he could.

Cross-examination continued—He did not examine the head of the deceased, because he considered he had found quite sufficient causes of death in the congested state of the heart and lungs. The cold state of the extremities and the difficulty of breathing might be produced by many diseases; but in this case he should say they were occasioned by the congestion of the lungs. Some diseases of the brain might cause congestion of the lungs.

Two persons in the service of Dr. Ellis, and who were engaged in superintending the baths, were then examined. Their evidence merely went to show that the deceased was put in a bath at a temperature of 85 degrees on the Friday, Saturday, Sunday, and Monday, in the morning. It appeared that he remained in the bath 90 seconds, and he was then rubbed dry, and was placed in bed. They also proved that wet bandages were applied to him, but they denied that there was any application of the bath after Monday afternoon, when the deceased appeared in the state described by his wife.

In cross-examination, they said that on the Saturday and Sunday the deceased appeared very much better, and that he stated the baths had done him a great deal of good, and he was able to walk, and he likewise said that he felt very much better since he had been under Dr. Ellis. The doctor, it appeared, also sat up with the deceased all Sunday and Monday night, and appeared anxious to do all he could to relieve him, and the deceased all along expressed satisfaction at his treatment.

This was the case for the prosecution, and the court and jury adjourned for a short time to take some refreshment.

Mr. Cockburn then addressed the jury for the prisoner, and he commenced by observing, that the present charge differed from every other in this respect; that whereas in

every other case the law required a guilty intention to be proved or inferred, yet, in this instance, if a person acted with the utmost kindness, and showed the strongest desire to benefit his patient, if death, notwithstanding his exertions, unhappily ensued, he still might be amenable, to the charge of manslaughter. The learned counsel then proceeded to express an opinion that the jury ought to dismiss entirely from their minds all consideration of the merits of the hydropathic system; he considered it had nothing to do with the case. It might be a very good system, and possess all the advantages claimed for it by its supporters, or it might be, as was represented by others, a delusion and an imposture; but the only question for the jury was, whether, under all the circumstances of this case, they could come to a conclusion that Dr. Ellis, in his treatment of the deceased, had acted with such criminal rashness and want of caution as would justify them in finding him guilty of the crime of manslaughter. He then proceeded to comment upon the facts, and said it appeared perfectly clear that the deceased had gone to the doctor's establishment of his own accord, and that the doctor was ignorant of his suffering from anything but rheumatism. The treatment at first was most successful; for, inasmuch as it appeared from the deceased's own admission that when he first went there he was "prostrate with pain, helpless as a child, and unable to walk," it was shown that in a day or two he was entirely free from pain, and able to walk in the garden with a little assistance. Was not this calculated to induce Dr. Ellis to persevere in his treatment? And if, unhappily, by so doing, he had aggravated another mortal disorder, of the existence of which he had no idea, surely it would be too much to say that he had thereby subjected himself to the charge of manslaughter. The learned counsel then proceeded to comment at some length upon the medical testimony, and observed, that he thought it would have been but fair to Dr. Ellis if he had been allowed an opportunity of being personally present at the post-mortem examination, or of having some one there on his behalf. He likewise called the attention of the jury to the fact, that it was admitted, although some diseases of the brain might have occasioned the congested state of the lungs, yet that organ was not examined; and, for all the jury knew to the contrary, it might, if the examination had taken place, have entirely accounted for the appearances which presented themselves on the body of the deceased. The learned counsel concluded a very eloquent and able address by calling upon the jury to acquit the prisoner, and not to destroy for ever his prospects in life by finding him guilty of so serious a charge upon such slight testimony.

Lord Chief Justice Tindal then summed up, and the jury, without any deliberation, returned a verdict of Not Guilty.

The defendant was immediately discharged from custody.—*Times*.

#### CASE OF MAL-PRACTICE.

*To the Editor of the Boston Medical and Surgical Journal.*

DEAR SIR,—A case of mal-practice has just been before our Superior Court, which is not without interest to the profession. Dr. J. S. Oatman, of this city, a reputable physician, attended a carman, æt. 64, for a comminuted fracture of the femur near the condyles. The patient being an aged man, and suffering under depraved health at the time, had also an erysipelatous affection of the limb of some months' standing, accompanied with œdema of the injured leg. The inflammation and swelling which supervened immediately after the accident, precluded any very accurate diagnosis, and the morbid condition of the patient, and especially of the limb, forbid any considerable pressure, either by bandages or

the application of extension. The posture found to give the patient most comfort was that of semi-flexion, and the double inclined plane was adopted, the apparatus of Palmer and Roe being preferred, upon which the limb was placed, and suitably secured. At the proper time, the usual attention was paid to the careful adjustment of the fragments of the bone, and all the extension and counter-extension which was admissible, seems to have been duly made. On the 30th day the fracture was found firmly united by Dr. Chessman, who examined it, and the limb being measured, was found shortened two or two and a half inches.

At this juncture, a young physician in the neighbourhood called in to see the patient, without the knowledge of the attending surgeons, and with the consent of the patient, invited Drs. Parker and Wood to visit him, both of whom gave it as their opinion that no surgical treatment was called for, or would be admissible. A son of the patient soon after called upon Dr. Oatman, and significantly intimated a proposition to settle with him for a quid pro quo, as the only alternative to a suit for mal-practice; the shortening of the limb being now made a ground of complaint, unskillfulness and neglect being alleged, &c. The doctor, not relishing such ingratitude in lieu of his fee for faithful services, was not very patient under it, resenting it as an outrage, and acted accordingly. After six months had passed, the suit was brought, and the testimony of Drs. Mott, Parker, Wood, Reese, Post, Chessman, &c., was so conclusive and unanimous, that the Plaintiff's counsel would have submitted patiently to a non-suit, but the jury acquitted the defendant, so that his triumph was complete.

Enclosed you will find a newspaper report of the testimony, should your limits allow its use.

MEDICUS.

*New York, June 22, 1846.*

On the trial the Counsel of the Plaintiff, as instructed, attempted to show that the fracture had been badly managed; that the apparatus used was not the best; that there was not sufficient extension and counter-extension used to prevent the shortening of the limb, and that there had been thus a want of attention and skill on the part of the doctor, by reason of which he was left a cripple. But his case was overthrown by his own witnesses, Dr. James R. Wood and Dr. Parker, both of whom examined the limb after some thirty days, and agreed that it had been a bad case of crushed bone, in which the shortening of the limb was unavoidable, under any amount of skill; and the latter gave it as his judgment that the patient was exceedingly well off to have recovered from such an accident with both his life and limb, and with no other disaster than a short leg.

But, though Dr. Oatman might here have rested his case, and submitted it to the Jury on the prosecutor's own testimony, yet his Counsel deemed it due to his professional character to proceed to show, by witnesses well known for their surgical skill and experience, that he was blameless in this case and its results.

Dr. Valentine Mott, a surgeon of forty years' experience, testified that more or less shortening of the limb is uniformly the result after fractured thigh, even in the most favorable circumstances; but that the age of this patient, the bad character of the fracture, the erysipelatous state of the limb, and all the circumstances, were averse to a favorable result, and likely to increase the extent of the shortening.

Dr. David M. Reese is a physician and surgeon of twenty-five years' practice, and testified that from the nature of the injury as described by the witnesses, there could be no doubt that it was an oblique and comminuted fracture, which is always unfavorable, and renders a shortening of the limb inevitable. In such a fracture there is always injury of the soft parts, which complicates the case by increasing the risk of inflammation and swelling, and renders it liable to be followed by irritative fever and other constitutional disturbance.

The age of the patient was unfavorable; the erysipelas, and especially the dropsical swelling of the limb alleged to be present, would forbid any considerable extent of pressure by bandages, or extension of the limb, without risking the loss of both limb and life. The Dictionary of Dr. Cooper, shown by him, was regarded as good surgical authority by the profession everywhere, and had been edited by himself, all the notes having been republished in London by the author in his last edition.

Dr. A. C. Post, one of the surgeons of the New York Hospital, stated that in such a fracture the injury to the soft parts would interfere with the extension of the limb; and has known two cases in which the attempt to make extension and counter-extension resulted in mortification, and the thighs had to be amputated. The age of the patient and diseased state of the limb increased these dangers. In all such cases, a very considerable shortening of the limb takes place under the best treatment and care, and the removal of the foot bandage by the patient, as in this case, would increase it. In half an hour after such an accident, he has known the swelling to be so great as to forbid any success in ascertaining definitely the nature of the injury.

Dr. Chessman, a physician and surgeon of long experience, saw this patient with Dr. Oatman, with great difficulty inspected the thigh, being opposed by both the patient and his friends. He found that it had been an oblique and comminuted fracture, now united. He found the limb shorter than the other, as it uniformly is in such cases. He never knew an exception, and concurs fully in the opinion that the age and morbid state of the limb in this case forbid any greater extension or pressure than was used, and was obstructed in his inquiries by the disturbance and resistance made to his examination.

Similar and corroborative testimony was given by Dr. Dickinson and Mr. McCord. Dr. Shepherd was then examined, who had attended the case throughout, and bore testimony that there was no want of attention or skill on the part of Dr. Oatman, who manifested throughout a becoming interest in the patient's welfare. He proved the morbid state of the limb, the disturbance of the bandage by the patient, and the adverse circumstances which had to be contended with in the management of the case.

Dr. Stoothoff testified that he accompanied Dr. Chessman and Dr. Oatman on their visit to the patient, and learned from the latter that Dr. Cockroft, junior, had been there, and the son confessed that he had denied it, to conceal this clandestine visit.

In the progress of the trial there was a display of surgical apparatus, thigh bones both sound and broken, together with a beautiful model of the thigh taken from the Anatomical Venus, now exhibiting at the American Museum, recently imported from France by P. T. Barnum, Esq., who kindly loaned it for the purpose of enlightening the court, bar and jury, as to the muscles concerned in fractured thigh.

The Jury returned a verdict for the defendant.

THE

## British American Journal.

MONTREAL, SEPTEMBER 1, 1846.

### LAKE SUPERIOR COPPER MINES.

The public eye is directed with a good deal of attention, at the present moment, to the exploration for silver and copper ore which is now taking place in the mineral region on the Canadian or northern shore of Lake Superior. It is well known that three or four companies for mining purposes have been formed, who have located

themselves on Spar Island, Mamainse, Michipicoten, and St. Ignace. The Provincial Geologist is prosecuting his researches in that district at present; and, in anticipation of his report, which will be eagerly looked for, we furnish our readers with all the information which we have been enabled to collect on the subject.

For several years past, it is well known that the copper and silver region on the southern shore has been most successfully worked by several American companies. Mr. C. T. Jackson of Boston, who was employed two years ago by the Lake Superior Copper Mining Company, has furnished a valuable report in the American Journal of Science and Arts for July, 1845, on the copper and silver ores, and general geological features of Kewenaw Point in that Lake. The late Dr. Douglas Houghton, whose untimely death by drowning, in the prosecution of his labours, has caused deep regret, preceded Mr. Jackson in the survey of that region. The final report, however, of his labours has not yet been received; but, if to be completed, will contain a minute account of the geological formation of the whole of that district, and of the metalliferous rocks in particular. On Kewenaw Point, copper is largely diffused through the rocks, both native and in states of chemical combination. The conglomerate which abounds here, contains veins of calcareous spar, in which copper in a native state, as well as carbonated, exists. The hydrous silicate of copper or chrysocola, which is also met with in this conglomerate, when free from rock, contains 25 to 30 per cent. of copper. Black and brown silicious oxides are also met with, which have yielded, by analysis, 51.08 per cent. of copper, and a very minute proportion of oxide of iron. In the conglomerate of Copper Harbour, a vein of black oxide of copper was discovered, yielding as much as 68 to 70 per cent., and is the most valuable ore met with in this locality.

At Kewenaw Point native copper is found abundantly. It is met with disseminated in trap, but is most abundant in the amygdaloidal variety. It is met with occasionally in masses, weighing many pounds. Nine veins of native copper have been discovered on the locations leased to the company, but of these only two or three have been worked as capable of furnishing any valuable return.

At Eagle River, copper is found in large quantities alloyed with silver. In an amygdaloid trap, this alloy is found to constitute from 10 to 30 per cent. of its weight. The crevices and veins of the rock are filled with thin sheets of it, and lumps of considerable magnitude are occasionally found.

The following results of the analysis of the Eagle iron, copper, and silver ore, are given. "The value of the rock per ton is as follows:—It yields in 50 lbs.,



silver, 763.8 grs. =  $1\frac{74}{100}$  oz.; equal to 4 lbs., 5 oz., 364½ grs. per ton; value, \$87.25. Copper, in 50 lbs. rock, 6 lbs., 9½ oz. = per ton, 263 lbs.; value, \$42.10. Value of one ton of the rock, \$129.35."

Such, then, are the chief results at Kewenaw Point and Eagle River (8 miles from Eagle Harbour), and there is every reason to believe that the northern shore abounds with even richer ore. On this subject, however, our information is as yet but scanty. At Prince's Harbour, the grey sulphuret, one of the most valuable of the copper ores, abounds. It occurs in a vein, composed of calcareous spar, barytes, and amethystine quartz, which is about 15 feet wide, the metalliferous portion being about 4 feet 8 inches. We have seen fine specimens of it, as well as the metal in its native state, carbonated, and presenting argenterous indications, sent to this city from the region. No analysis has yet been perfected.

The scenery at Prince's Harbour is said to be, by a talented correspondent, beautiful. "Lofty cliffs guard the whole coast. They are precipitous, or I should say vertical, for some distance at the summit, and then slope down at an angle of 45°, making a *talus* to the water's edge. This form is very general, and it arises from the geological structure. The whole country seems to be a trap underlaid by a shale. The trap gives a vertical face, the softer shale beneath gives the *talus*. An infinite number of trap dykes exist, which have a general parallel course, running N.E. and S.W. The metallic veins cut these at right angles, and run N.W. and S.E. The parallelism of the veins is considerable."

If datholite and calcareous spar are found on the northern shore as they are on the southern, the operation of smelting will be very considerably economized by being done on the spot. These minerals constitute the best fluxes for the trap in which the ores are chiefly met with.

*Medical Matters in Canada.*—The above is the heading of an Editorial paragraph in the Boston *Medical and Surgical Journal*, of the 19th August, and in the London *Lancet*, of the 25th July, and under it both of our contemporaries, have given extracts from a speech by Dr. Wolfred Nelson, in the Legislative Assembly, (reported in the *Pilot* newspaper of the 20th June,) on the occasion of the usual Legislative grant to the Medical department of the University of McGill College. We doubt not, from thus perceiving a notice of that report by two of our contemporaries, so widely separated from each other, that it has been very generally, and industriously distributed, for an object too conspicuous to

escape detection. Were it not for this circumstance, the silence which we have hitherto observed on the subject, would have been farther maintained. We had determined to render this Journal, (since the decease of the *Medical Gazette*, whose line of policy was very different,) the advocate to favour of no particular school; we had resolved to exclude all topics which might tend to the advancement of one school of medicine by derogating from the merits of another; and every subject of medical polity, which circumstances have compelled us to notice, have been treated with a single eye to the general good of the Profession, and not of particular parties in it. Keeping in view this principle, we avoided all notice of Dr. Nelson's speech at the time of its delivery, and, great although the provocation was, we passed in silence the aspersions on the Medical Faculty of McGill College, with which it teemed. In the House, his denunciations were productive of no effect; and out of it, we felt assured that so far as this Province, and city in particular, were concerned, they would, from his known interest in the Incorporated School of Medicine, be estimated at their proper value, rendering a refutation, had it not clashed with our principle, a work of supererogation. It was natural for him, with the object which he had in view, to laud that school with which his name was blended, and to disparage as much as he could, the one of which he is a professed antagonist. He did both with the ingenuity and fertility of imagination for which, in these matters, he is conspicuous. He "mounted his assumptions, and then he rode them" beautifully.

If our silence on this subject has been hitherto a virtue, it would, now that his speech has been noticed in two important medical periodicals, (in one with some prudently expressed distrust as to the correctness of its statements,) degenerate into a crime, and we feel persuaded that on the present occasion our subscribers will pardon, when they reflect on the subject, this temporary deviation from our rule of action. We mean not to dissect the speech, nor to expose *seriatim*, the errors, and distortion of circumstances with which it abounds. We think that our columns might be much more profitably occupied, than by descending to particulars, in which a very large majority of our readers can take no interest whatever. The extracts given by our contemporaries will meet with a rebuttal in a much more legitimate manner, than through the columns of this Journal.

From an observation at the conclusion of the paragraph, in the London *Lancet*, which has drawn forth these general comments, we infer that this Journal has not been received with regularity at that office. We assure our London contemporary that it has been regularly sent by our publisher, which is all we can do to



keep him supplied with *authentic* information on "Medical matters in Canada."

*Medical Board for the District of Montreal.*—At the August quarterly meeting of this board, the following gentlemen received, after examination, their certificates of license to practice.

As Physicians, Surgeons, and Accoucheurs,

Thomas Wallace,

R. Hunter,

G. Duguay.

As Apothecary, Chemist, and Druggist,

M. Parkin.

### LETTER III.

To the Editors of the *British American Journal*.

GENTLEMEN,—I think I have already adduced presumptive evidence of some weight relative to the nature of the cause of our present debasement as members of one of the liberal professions. But we are furnished with examples on every hand of the advantages that result from a prevailing spirit of concord among individuals engaged in the same pursuit, and who have one common interest to protect and sustain.

That famous watch word, "union is strength," has served as a rallying cry of the oppressed from time immemorial. At the present period, and especially in countries where the representative form of Government exists, the dictates of that aphorism, when fully carried out, have been found to produce moral effects not inferior to their physical influence in past times. Let us notice briefly a few familiar instances. The politician, individually a mere cypher, unites himself with others entertaining opinions similar to his own, when straightway he becomes powerful. The teachers of our religious faith, one and all, inculcate the doctrine that "the labourer is worthy of his hire;" the cry "give us our daily bread," is repeated and made to ring its various changes upon the minds of the multitude until their just demands are granted. The Lawyer, as I have already shown, forms a strong bond of union with his fellows, and obtains, with little labour or trouble, all that he asks for. The union of a few British philanthropists produced the abolition of slavery throughout the empire in spite of a most powerful opposition, and at a cost to the British nation of an incredible sum of money. Catholic emancipation, and parliamentary reform, were both results of a union of parties having these objects in view. And the recent repeal of the corn laws in England, affords another and yet more remarkable example of the wonderworking power of union when followed by energetic action. Shall we then, with examples such as these before us, with incentives to exertion as strong as any of the cases

here cited could furnish, remain always irresolute, always divided? Shall the darling interests and hostile prejudices of rival schools, and political partizans, in one section of the Province, and the absurd pretensions of a few disciples of a quasi privileged institution situated in another hemisphere of the other, be permitted always to control the movements of the great body of the profession? Shall we continue to present to the world the spectacle of a body of men ever complaining of the wrongs they suffer, yet so divided in their councils, so torn by internal dissension, as not to be able to agree upon any rational plan of action for the removal of those wrongs? I cannot believe that the existence of such a state of things can be felt and acknowledged without an effort to overcome it. It is impossible that among the one thousand educated and intelligent gentlemen, who represent the profession in this colony, a sufficient number cannot be found who, seeing and feeling the manifold evils that time and circumstances have inflicted upon them, are willing, nay, anxious to remove them, and by one strong united and well directed effort to place themselves on a level with their contemporaries. That most efficacious of all provocatives, public ridicule will force this alternative upon them if their own interests and honor should fail to do so.

It is not to the metropolitan portion of the profession that we are to look for the power by which this great object is to be attained, it is the force of numbers alone that can effect it. A system of organization must be adopted that will extend itself over the whole province, from Sandwich to Gaspe. From all the towns and villages invitations should go forth from societies or influential individuals, to every licensed practitioner within the limits of each district, to assist with his advice and influence in furthering the grand object, and let it be proclaimed that the object embraces *protection for ourselves, an elevated standard of education for the rising generation, and nothing more!*

The Medico-Chirurgical Society of Toronto have thought proper to take the initiative in this matter,\* and I have every reason to believe that they are influenced by a sincere desire to do what is right, but there is one objection that applies to them as well as to our friends at Montreal; they are not sufficiently acquainted with the real wants of the country practitioner, and it is this overworked, ill paid, but most meritorious portion of the profession who stand most in need of protection. The country practitioner has been made the tool, I am sorry to say, of his citizen confrere on more occasions than one, but he has been taught, I should hope, by experience, to acknowledge the folly of such passiveness. If the Medico-Chirurgical Society of Toronto or Montreal, or

any other body of practitioners in those cities, will lay aside all party or sectional motives, and come forward with a practically useful and comprehensive measure, it might be well, on many accounts, to submit to their leadership. But gentlemen in the country must bear the fact in mind, that business, to be well and satisfactorily conducted, must be superintended by the parties immediately interested. Past experience, however, has shown how difficult it is to assemble a large body of medical men at a distance from their homes, and in many instances good reasons might be assigned for the refusal of individuals to attend such meetings; but this difficulty might be obviated in a great measure by the appointment of proxies, with full instructions from their principals.

Supposing the attention of the great body of the profession to have been awakened by the means suggested above, I should think that a plan of ultimate procedure, something like the following, might be adopted. If the societies of Toronto and Montreal, and four or five of the district societies, would each draft a bill to incorporate the profession in two distinct colleges, and then appoint a central committee, composed of delegates and proxies, whose duty it should be to form, out of the materials thus furnished, one bill embracing the views, as far as possible, of all the societies, there can be little doubt that the wishes of the profession would be fully met. A petition founded upon this bill, and embracing the principal features of all its clauses, should then be drawn up, printed, and transmitted to every practitioner in the Province. All this, it is true, would be attended with some trouble, but the pecuniary cost would be trifling. As a means of procuring signatures for the copies to be afterwards laid before the Legislature, each recipient of a printed copy might be directed to return his copy to the central committee with his name written at the bottom over the word approved, and in case of disapproval to retain it, the postage, which for a printed copy would be only a half-penny, to be paid both ways by the addressed. Signatures obtained in this way could then be transferred to the manuscript copy for presentation, the committee vouching for them. These hints are offered without apology, because the writer knows they will be taken only for what they are worth. There is one most important question united with the subject of these letters, to which I must beg to direct the attention of the reader.

A claim put forth by a respectable and well known institution—the Montreal Medical School—has been made the subject of an able editorial in one of the numbers of your Journal, and the arguments employed to combat the pretensions of that school, and to show the impolicy of increasing the number of institutions having the power of granting *ad practicum* diplomas, ap-

pear to me to be unanswerable. I approach this subject with diffidence, because I feel that I am treading on dangerous ground, but I cannot permit any consideration of a purely personal nature to interfere with the expression of my opinions upon a subject of such vast importance. Whether the gentlemen connected with the school referred to, propose to follow up their claim at the next meeting of parliament, I am not qualified to say, but I cannot hesitate to declare that the concession of that claim would be productive of the most serious injury to the profession, and by its effects as a precedent, to the best interests of the public generally. The evils resulting from a union of the duties of teaching and licensing in the same hands, have been ably set forth, not only in the editorial above alluded to, but more recently by Professor Stewart of New York, and I am persuaded that every unprejudiced mind who has read the address of that gentleman, (republished, I believe, in the June number of your Journal,) will agree with me, that no greater evil could befall us than the adoption of a system such as that practised in the United States. I agree entirely with the movers of the resolution passed at a late medical convention in New York, which proposes a separation of the duties of teaching from those which pertain to the granting of diplomas or licences, and I am decidedly of opinion that the privilege of granting diplomas, having the character of licenses, should not only be refused to the School of Medicine, but that it should be taken away, if possible, from every other institution in the Province by which it is at present enjoyed. The welfare of the public, and the respectability of the Profession, both imperatively demand that the examinations of candidates for license should never be conducted by parties connected with them as public or private teachers.

I am, Gentlemen,

Your obedient servant,

M. D., &c.

Toronto, August 20, 1846.

#### BOOKS, &c., RECEIVED.

- The Canadian Magazine. No. 4.
- Annual Catalogue, University of State of New-York.
- Stockton's Dental Intelligencer. No. 10.
- Minutes of the Proceedings of the National Medical Convention, held in the city of New-York, May, 1846.
- Illustrated Botany. No. 6.
- Buffalo Medical Journal. No. 3.
- St. Louis Medical and Surgical Journal. No. 2.
- Dublin Medical Press. July 8, 15, 22, 29.
- New-York Medical and Surgical Reporter. 21, 22.
- Medical Examiner. No. 20.
- Boston Medical and Surgical Journal. Vol. xxxv. 1, 2 and 3.
- Southern Medical and Surgical Journal. No. 8.

# Bill of Mortality for the City of Montreal, for the month ending July 31, 1846.

DISEASES.		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,	Measles, .....	4	15	19	5	10	1	3							
	Scarlatina, .....		2	2			1	1							
	Small Pox, .....		1	1		1									
	Fever, .....	12	12	24	14	1	2	2		1	3			1	
DISEASES OF BRAIN AND NERVOUS SYSTEM,	Water on the Brain	1	1	2	1	1									
	Dentition, .....	4	8	12	4	8									
	Convulsions, .....	5	2	7	7										
	Paralysis, .....		1	1										1	
	Apoplexy, .....	1		1										1	
DISEASES OF THE THORACIC VISCERA,	Delirium Tremens, ..	1		1									1		
	Consumption, .....	30	39	69	26	10			2	2	9	8	8	4	
	Diarrhoea, .....	14	14	28	18	6				1		2		1	
	Worms, .....	1		1	1										
DISEASES OF ABDOMINAL VISCERA,	Dropsy, .....	1	1	2										2	
	Jaundice, .....		1	1								1			
	Still-born, .....	3	3	6	6										
	Inflammation, .....	9	12	21	11	3	2	1		2				2	
	Drowned, .....	1		1					1						
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,	Debility, .....	1	6	7										3	4
	Unknown, .....	4	5	9	9										
	Accidental, .....	2		2						1		1			
	Sudden Death, .....	1	1	2									1		1
	Rheumatism, .....		1	1										1	
	Suicide, .....	1		1								1			
Total, .....		96	125	221	102	40	6	7	3	7	12	13	10	16	5

## MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR JULY, 1846.

Date.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+78	+84	+69	+81.	29.94	29.92	29.80	29.87	E.	E.	S. E.	Fair	Rain	Rain
2,	" 60	" 83	" 65	" 71.5	29.90	29.96	30.05	29.97	N.	N.	N.	Fair	Rain	Fair
3,	" 64	" 87	" 69	" 75.5	30.13	30.04	29.97	30.05	N.	N.	N.	Fair	Fair	Fair
4,	" 67	" 89	" 78	" 78.	29.94	29.86	29.77	29.86	S.	S.	S.	Fair	Fair	Fair
5,	" 77	" 96	" 78	" 86.5	29.79	29.62	29.59	29.67	S.	S.	S. W.	Fair	Th'der	Fair
6,	" 72	" 83	" 65	" 77.5	29.60	29.65	29.77	29.67	W. by S.	W. by S.	W.	Fair	Fair	Fair
7,	" 64	" 84	" 64	" 74.	29.78	29.76	29.84	29.79	W.	W.	W.	Fair	Fair	Fair
8,	" 63	" 80	" 67	" 71.5	29.80	29.77	29.77	29.78	W.	W.	W.	Fair	Fair	Fair
9,	" 67	" 82	" 75	" 74.5	29.80	29.76	29.75	29.77	W.	W.	W.	Fair	Fair	Fair
10,	" 74	" 90	" 70	" 82.	29.76	29.72	29.78	29.75	W.	W.	W. N. W.	Fair	Th&rn	Rn&th
11,	" 73	" 87	" 78	" 80.	29.75	29.67	29.66	29.69	W. by S.	W. by S.	W. by S.	Fair	Rain	Rain
12,	" 72	" 80	" 62	" 76.	29.69	29.73	29.82	29.75	W. by N.	W. N. W.	N. W.	Fair	Rain	Rain
13,	" 55	" 83	" 60	" 69.	29.93	29.86	29.79	29.86	N. W.	N. W.	N. W.	Fair	Fair	Rain
14,	" 54	" 78	" 55	" 66.	29.87	29.85	29.93	29.88	W.	W.	W.	Fair	Fair	Fair
15,	" 52	" 67	" 54	" 59.5	29.95	30.01	30.08	30.01	W.	N W by W	N W by W	Fair	Rain	Rain
16,	" 58	" 76	" 63	" 67.	30.22	30.25	30.30	30.26	N. W.	N W by W	N W by W	Fair	Fair	Fair
17,	" 59	" 79	" 65	" 69.	30.40	30.35	30.33	30.36	N W by W	S. W.	S. W.	Fair	Fair	Fair
18,	" 62	" 88	" 64	" 75.	30.30	30.21	30.21	30.24	S. W.	S. W.	S. W.	Fair	Fair	Fair
19,	" 64	" 85	" 65	" 74.5	30.15	30.06	30.02	30.08	S. W.	S. W.	S. W.	Fair	Fair	Fair
20,	" 70	" 93	" 77	" 81.5	30.30	29.94	29.93	29.96	S. W.	S. W.	S. W.	Fair	Fair	Fair
21,	" 72	" 89	" 76	" 80.5	30.04	30.01	30.01	30.02	S. W.	S. W.	S. W.	Fair	Fair	Fair
22,	" 76	" 88	" 71	" 82.	30.05	29.96	29.90	29.97	S. W.	S W by S	S. W.	Fair	Rain	Rain
23,	" 70	" 88	" 75	" 79.	29.81	29.72	29.70	29.74	S. W.	S. W.	S W by S.	Fair	Fair	Fair
24,	" 72	" 84	" 62	" 78.	29.70	29.73	29.77	29.73	N. W.	N. W.	S. W.	Fair	Cloudy	Rain
25,	" 58	" 87	" 60	" 72.5	29.87	29.98	30.10	29.98	N. E.	N. E.	N. W.	Rain	Rain	Rain
26,	" 57	" 78	" 67	" 67.5	30.14	30.14	30.10	30.13	N. E.	N. E.	N. E.	Fair	Fair	Fair
27,	" 64	" 86	" 70	" 75.	30.13	30.10	30.08	30.13	N. E.	N. E.	N. E.	Fair	Fair	Fair
28,	" 65	" 93	" 71	" 79.	30.10	29.98	29.93	30.00	S. E. by S.	S.	N. E.	Fair	Fair	Fair
29,	" 70	" 89	" 77	" 79.5	29.88	29.81	29.75	29.81	S.	S. by W.	S. by W.	Fair	Cloudy	Cloudy
30,	" 64	" 72	" 64	" 68.	29.74	29.74	29.73	29.74	E. by N.	E. by N.	E. by N.	Rain	Rain	Rain
31,	" 61	" 88	" 65	" 74.5	29.77	29.84	29.96	29.85	E. N. E.	E. N. E.	E. N. E.	Rain	Rain	Fair

THERM. } Max. Temp., +96° on the 5th.  
 } Min. " +52° " 15th.  
 Mean of the Month, +75°.

BAROMETER, } Maximum, 30.40 Inches on the 17th.  
 } Minimum, 29.59 " " 5th.  
 Mean of Month, 29.915 Inches.

DAY.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1,	29.487	29.459	29.486	29.5001	73.3°	75.7°	66.3°	70.82	.603	.620	.587	.601	.76	.72	.93	.82	N.E. by E.	E. by S.	Calm.		—	Mostly clear. Detached clouds. Slight showers at 4.50 pm.
2,	29.628	29.642	29.672	29.6541	67.6	75.5	61.2	67.22	.507	.606	.480	.516	.78	.71	.91	.80	N.	S.	Calm.		0.010	Misty clear. Hazy. Aur. 11 N. 1 & 2 am
3,	29.745	29.642	29.606	29.6323	67.2	75.0	58.4	65.62	.522	.462	.422	.451	.86	.55	.88	.74	E. by S.	E. S. E.	Calm.		—	Misty clear. Hazy round hor. Fair.
4,	29.541	29.427	29.439	29.4394	66.7	75.8	67.2	70.26	.527	.619	.532	.579	.83	.72	.82	.80	E. by S.	E. by S.	Calm.		—	Mostly clear. A few detached clouds. Fine
5,	29.270	29.247	—	—	76.3	85.0	—	—	.705	.491	—	—	.80	.42	—	—	S. by E.	N.W. by W.	Calm.		—	Cloudy. Clear intervals.
6,	29.435	29.433	29.474	29.4626	68.0	80.6	67.5	70.18	.558	.408	.402	.433	.84	.41	.61	.63	N.W.	N. N.W.	Calm.		—	Detached clouds. Hazy 7.10 am to 10 am
7,	29.585	29.587	29.579	29.5790	64.4	77.0	65.0	67.21	.443	.280	.321	.345	.75	.30	.55	.55	Calm.	N. N.W.	Calm.		—	Misty clear. Hazy. Wind in sud. gusts 3 pm
8,	29.558	29.483	29.492	29.5059	64.5	79.0	66.0	69.05	.432	.629	.504	.638	.73	.65	.81	.78	W.	S. by W.	Calm.		0.050	Clear to 4 pm. S.W. 7.10 am to 11.20 am
9,	29.522	29.436	29.446	29.4907	70.5	75.0	70.2	73.14	.544	.669	.650	.645	.75	.79	.85	.84	Calm.	Calm.	Calm.		—	Misty clear. Rg. 11.15 am to 11.20 am
10,	29.495	29.447	29.547	29.4942	80.5	90.6	70.4	78.82	.763	.872	.618	.701	.75	.61	.85	.72	S.W.	Calm.	Calm.		0.160	*Th. 10.10 am to 1 pm. Heavy rain 1.15 to 1.45 pm. S.W. 1.45 to 4 pm. Wind at 4.20 pm. Pres. 11 lbs.
11,	29.482	29.445	29.450	29.4752	76.1	76.2	74.0	73.18	.767	.709	.689	.659	.87	.81	.85	.82	S.W.	S.W. by S.	N.W.		0.210	Th. 1.45 to 4 pm. Pres. 11 lbs.
12,	29.497	29.473	—	—	73.8	80.0	—	—	.583	.588	—	—	.72	.59	—	—	N.W.	N.W.	Calm.		not ap	Cloudy.
13,	29.603	29.510	29.502	29.5314	60.0	77.2	61.7	64.06	.483	.573	.477	.466	.96	.64	.89	.78	N.W.	W. by N.	Calm.		0.035	Generally clear. Thunderst. 7 to 8 pm.
14,	29.614	29.666	29.721	29.6988	56.2	64.1	53.2	56.47	.415	.389	.302	.327	.94	.67	.75	.74	N.W.	N.W.	Calm.		—	Mostly clear. Fine.
15,	29.831	29.838	29.887	29.8647	54.3	61.6	57.3	57.55	.322	.367	.402	.355	.78	.68	.88	.77	N.W.	N. by E.	Calm.		—	Partially clouded. Auroral light 0 am.
16,	29.945	29.945	29.946	29.9536	60.0	68.4	52.0	58.44	.448	.347	.322	.341	.88	.52	.84	.72	Calm.	S.S.W.	Calm.		—	Detached clouds. Mostly clear. Fine.
17,	30.027	29.947	29.921	29.9441	59.2	70.2	55.6	61.87	.360	.381	.329	.368	.74	.54	.76	.69	Calm.	S.E.	Calm.		—	Detached clouds. Mostly clear. Fine.
18,	29.921	29.858	29.842	29.7946	64.0	74.5	59.0	66.84	.466	.465	.434	.468	.80	.56	.88	.74	Calm.	E.	Calm.		—	Clear and unclouded. Very fine.
19,	29.778	29.650	—	—	72.2	75.6	—	—	.527	.439	—	—	.69	.51	—	—	E. S. E.	E.	Calm.		—	Generally clear am. Clear from 9 pm.
20,	29.582	29.538	29.561	29.5642	70.2	78.9	62.8	68.94	.583	.594	.493	.546	.81	.61	.88	.80	Calm.	S. E. by S.	Calm.		—	Passing clouds. Aur. light 0 am.
21,	29.612	29.551	29.583	29.5884	69.6	74.9	67.6	69.90	.604	.557	.534	.543	.86	.66	.82	.77	Calm.	E.	Calm.		—	Generally clear. Aur. light 0 am.
22,	29.97	29.537	29.508	29.5274	66.4	76.2	61.6	66.12	.568	.598	.492	.523	.90	.68	.92	.84	Calm.	S. E.	Calm.		—	Generally clear.
23,	29.501	29.406	29.362	29.3905	66.4	71.0	68.4	72.11	.543	.533	.552	.553	.86	.55	.82	.73	Calm.	Calm.	Calm.		—	Quite clear to 8 am. Rem. part. clouded.
24,	29.310	29.319	29.460	29.3992	67.4	71.8	67.6	66.49	.593	.607	.576	.562	.91	.80	.88	.89	Calm.	N.N.W.	N.W. by N.		0.490	Raining 11.4 am to 11.50 am. Auroral light 9 to 11 pm.
25,	29.608	29.643	29.678	29.6665	68.4	79.3	70.5	71.44	.501	.595	.437	.507	.74	.61	.60	.69	N. N.W.	W. N.W.	Calm.		0.450	Clear to 9 am. Remainder clouded.
26,	29.727	29.745	—	—	70.2	73.2	—	—	.547	.540	—	—	.69	.68	—	—	Calm.	—	—		—	Unclear. Very fine.
27,	29.793	29.750	29.707	29.7291	69.0	75.9	58.6	66.68	.574	.431	.383	.444	.84	.50	.79	.71	N.E. by E.	E. S. E.	Calm.		—	Unclear. Hazy. Very fine.
28,	29.644	29.544	29.515	29.5492	66.5	76.2	65.6	69.83	.523	.602	.577	.581	.83	.68	.94	.83	N. E.	S. E. by S.	Calm.		—	Part. cl'd. Sheet falling 10 to 11 pm.
29,	29.446	29.403	29.373	29.3850	74.4	81.6	74.8	75.88	.725	.755	.759	.731	.88	.73	.91	.85	Calm.	S. by W.	Calm.		—	Thunder. lightning. & rain most of day.
30,	29.322	29.296	29.398	29.3615	75.7	85.4	72.5	75.38	.792	.699	.558	.649	.92	.59	.72	.76	S. S. W.	W. S. W.	Calm.		—	Ceased 7.10 am. 3.30 am. Day in mly cl'd.
31,	29.546	29.588	29.635	29.6063	66.0	77.8	64.0	68.39	.501	.432	.434	.450	.80	.47	.75	.68	Calm.	N. by E.	N. by W.		1.430	Clear to 9 am. Part. cl'd to 6 pm. Rem. cl'd
Mean	29.6067	29.5711	29.5853	29.5847	67.13	76.05	64.41	68.22	.544	.548	.492	.514	.83	.62	.82	.76					2.895	10th. noon—Thermometer stood at 94 deg. 1 pm had fallen to 77 deg. 6 min.

Under the head of "Tension of Vapour," is given the elastic force of the aqueous vapour in each observation, in decimals of an inch of Mercury, or the proportion of the barometric pressure due to its presence.  
Under the head of "Humidity of the Air," is given the proportion the aqueous vapour bears to the quantity the air is capable of sustaining at the existing temperature, saturation being represented by 1.00.  
The quantity of Rain or Snow received each 24 hours, is noted at 9 a.m.  
The Observations entered in the column for 7 a.m., on Sundays, are actually taken at 9 a.m. The two Observations taken on Sundays are not included in any of the means.

Proportion of Wind from each Quarter—  
N.W. 157 Total. 1840.  
S.W. 81 Winds. 3691842.  
S.E. 93 Calms. 2791813.  
N.E. 38 Calms. 1844.  
Obscr. 6481845.  
1846.  
Mean force, 0.29 lbs.; Max. force, 11 lbs., from 1 p.m., and at 6 p.m. on the 10th.

Temperature for July.  
Mean. Max. Min. Range. No. Days. Rain. Inches. No. Winds. Calms. Mean force 10th.  
66.3° 82.3° 47.0° 35.3° 6 6.270 194 130 0.27  
65.6° 89.0° 39.9° 49.1° 10 8.150 383 236 .43  
64.7° 91.0° 42.5° 48.5° 4 3.050 388 236 .44  
64.6° 86.8° 38.7° 48.1° 8 4.605 368 266 .33  
65.08° 86.6° 40.1° 46.5° 12 2.815 379 19 .19  
65.22° 94.6° 45.7° 50.1° 7 2.195 328 320 .30  
65.22° 94.6° 44.5° 50.1° 10 2.895 369 279 .29

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**OBSERVATIONS ON THE NATURE AND TREATMENT OF VARIOUS DISEASES,**

**BY ROBERT L. MACDONNELL, M.D.,**

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**No. 2.—ON THE USE OF THE MICROSCOPE IN THE PRACTICE OF MEDICINE.**

For the last nine or ten years the Pathologists of Europe have been in the habit of using the microscope for the elucidation of many departments of Practical Medicine, but more especially for the examination of urinary diseases.

The researches of Prout and others, who examined this difficult subject with the assistance of chemistry, did much, no doubt, towards removing a great deal of the obscurity in which it was enveloped; but the physician in the active practice of his profession, although he could not shut his eyes to the great importance of chemistry, in renal diseases, had to neglect the minute study of these affections, inasmuch, as at every step his progress was arrested by the necessity for chemical analysis, and the great length of time which a careful examination of the urine required, when conducted in this manner. But now that the writings of Rayer, Bird, and Simon, have placed in the hands of the practitioner a speedy and simple method of analysing urinary deposits, no matter how small in quantity, by means of the microscope, no excuse can be offered for his remaining ignorant of this subject, except that, which with equal propriety, he might adduce for his want of acquaintance with other improvements in medicine, viz., indolence or indifference.

But I am not without hope, that the recital of the following cases, in illustration of the value of the microscope to the medical practitioner will be productive of good; and that some of my brethren, who may not as yet have turned their attention to this important matter, will be induced to commence its study, which, I can assure them, will be productive of more unalloyed pleasure than any other department of their profession is capable of affording.

For some years back I have been in the almost daily habit of using this instrument, in the investigation of diseases of the kidneys, urethra and bladder, and in those affections which, though situated in distant organs, produce sympathetic derangements of the renal functions.

On my arrival in this city, I made some of my friends acquainted with these investigations; amongst others, I may allude to Dr. Crawford, whose zeal for the science of his profession is well worthy of imitation. He soon saw the great assistance the instrument afforded in many difficult cases, and availed himself of his being in London to order out two excellent ones, which I believe he is constantly employing.

Indeed I could hardly adduce a case more conclusive of its utility than the following, which occurred in his practice.

**CASE I.**—A boy, aged about six or seven years, was brought to Dr. Crawford last autumn, by his mother, who stated that he laboured under various symptoms, which led Dr. C. to suspect the presence of a calculus in the bladder. He accordingly introduced a sound, but did not obtain any conclusive evidence of the presence of a stone. The boy laboured under the symptoms for some time longer, and in my presence the sound was again introduced, but neither the doctor nor myself could feel any calculus. I obtained a small quantity of the boy's urine, and examined it with the microscope, and although to the naked eye it appeared quite healthy, yet it exhibited a good number of pus globules, as well as a deposit of the triple phosphate in prismatic crystals.

As the boy had no symptoms of disease of the kidneys or ureters, and his age precluding the probability of these appearances being due to gonorrhoeal irritation, the opinion we formed was, that the mucous membrane of the bladder was in a state of subacute inflammation. Soon after the employment of treatment which this diagnosis suggested, the symptoms became alleviated.

**CASE II.**—Last winter a gentleman, aged twenty-four, called upon me for advice, for what he termed a disease of the liver. He had been under the care of one physician for three years, and had lately consulted

a second—the former had given him large quantities of mercury for the supposed malady, and the latter following up the idea, had given him blue pill and taraxicum. Both had attributed all his symptoms to “Liver Disease.” On investigating the case I could not agree with him, that his headache, palpitations of the heart, loss of appetite, constipation, lassitude, apathy for former occupations and amusements, extreme nervousness and timidity, inability to take exercise or undergo the least fatigue, indifference to worldly prospects, (seeing that he had been only a month married) occasional dizziness of sight and impairment of memory, with almost constant insomnia, and a host of other minor symptoms were to be ascribed to chronic hepatitis. Accordingly I recommended him to leave at my house four or six ounces of the urine passed on the following morning.

Having examined it, I found it loaded with oxalate of lime crystals, and a copious admixture of dead and disorganized spermatozoa. I immediately obtained a clue to the diagnosis and treatment of his disease. The presence of spermatozoa clearly proved the existence of that form of spermatorrhœa, to which Lallemand has directed attention. In this variety, the discharge takes a retrograde route to the bladder, hardly any of it getting exit by the urethra; and such a condition of the genital organs is more frequently produced by onanism than natural indulgence. The oxalate of lime always indicates great debility and irritation of the system—general nervous exhaustion;\* and we know that to such a state it is that the unfortunate victim of this practice reduces himself.

I had no hesitation, then, *in the absence of symptoms more clearly connected with hepatic disease*, in associating all his sufferings with the above-mentioned vice.

Now, it is extremely unlikely, that I should so soon have been enabled to arrive at the origin of the disease, were it not for the light thrown upon the matter by the microscope; but having once detected spermatozoa in the urine, the inference to be deduced was, that the involuntary emissions were the result, either of excessive sexual indulgence or masturbation; and the confessions of the patient removed any further difficulty. During the whole time that he was treated for the supposed liver disease, he himself more than suspected that his physicians had not traced his ailments to the fountain-head; and he expressed his astonishment, that, during the whole time he was under their treatment, they had

never inquired into his mode of life or habits. Suffice it to say, that after some hesitation, he admitted having been inordinately addicted to the practice, and stated that for the last three years he had been subject to involuntary emissions three or four times each night: that the consequent exhaustion was so great, that for a length of time he was accustomed to go to bed at ten o'clock, and rising again at twelve o'clock, he passed the next three or four hours in walking about his chamber, or in reading, in order to allow the interval to be passed over without involuntary emissions. Latterly, he had become impotent, and being recently married, his wretched condition preyed severely on his mind.

The treatment pursued was ultimately attended with success, and he now enjoys good health.\*

I have selected the above example from amongst many others, in which I have diagnosed involuntary seminal discharges from the microscopical examination of the urine, a discovery first published by the celebrated Lallemand, who has contributed so much to our knowledge of the pathology of the genital and urinary apparatus.†

CASE III.—I was consulted in last March by a lady, in reference to the case of her son, a boy aged 8, of strumous habit, who from infancy had been subject to “wetting the bed” every night, no matter what precautions she adopted to prevent it. For the first three years this habit caused her no uneasiness, as she thought that as the child grew older, the habit would wear off; but at the expiration of this period, not finding any amendment taking place, she consulted her physician, who recommended a “whipping” to be administered every morning, a prescription which for some time she rigidly followed. Not deriving any benefit from this scientific treatment, she left the case to nature, until she brought him to me. Having made an examination of the urine, it was found to present the following characters—spec: grav: 1021 at temp: 65 deg. Fahr.; reddened litmus paper, was of a deep amber colour, depositing a yellowish sediment, which, on being examined microscopically, presented a copious collection of large-sized, lozenge-shaped crystals of lithic acid, without any admixture of epithelium, pus, or blood. In other respects the boy’s

\* It would be foreign to my purpose to enter into the details of the treatment I employed in the above case, and which I have found most serviceable in similar ones. This I hope to do at a future period, when I intend devoting some time to the consideration of this subject.

† A friend sent me some urine not long ago, in which he thought he had detected spermatozoa. I had no hesitation, even before examining the specimen, in differing from him—First, Because he described them as moving about; whereas, when in the urine, they are always dead, and generally disorganized. Secondly, Because I knew that his microscope did not magnify sufficiently to exhibit the characteristic tail of the spermatozoon, which requires a power of at least 500° linear. The animalcules which he saw were a species of *Vibronia*, very frequently met with in decomposing urine.

\* Donné has asserted, that oxalate of lime is always a sure indication of spermatorrhœa, I have frequently detected it in the urine of females, which at once upsets his doctrine—It would be more correct to state that it is frequently associated with that disease.



health, though not bad, was far from being robust. In fact, he was what is usually understood by the term, a "delicate boy."

The treatment I pursued in this case, is that, which, under similar circumstances, I find to answer best, viz., a combination of diaphoretics, anti-spasmodics, alkalies, and nutritious diet. Accordingly, a powder of nitrate of potash was ordered to be taken at bed-time, and washed down by a draught containing camphor mixture, and tincture of opium; lime water to be taken during the day, and nutritious diet, consisting of a good proportion of *fresh animal food*.\*

Nitrate of potash acts in these cases most beneficially, not only in keeping the skin in a healthy state, but also by increasing the watery constituents of the urine, thereby diluting it, and rendering it less irritating to the bladder.\* The camphor and opium are serviceable in preventing spasmodic contraction of the bladder, and in subduing irritation.

The indications for alkalies are so manifest, that no explanation is required for their having been ordered. Of these I have derived most benefit from lime water taken with equal parts of milk, and used, not as a medicine, but as the ordinary drink of the patient. Most invalids become very fond of it, after the first three or four days.

It may appear unscientific to order animal food, in the lithic acid diathesis, seeing that we thus supply the system with nitrogenized elements, and consequently with materials for the formation of urea; yet the harm we do, is more than compensated for, by the benefit to the system generally; for though, in a chemical point of view, we ought to withhold azotised substances in the uric acid diathesis, yet pathology has shown that we must first relieve the debilitated and irritable state of the system, in such cases, before we can look for a *permanent* improvement in the renal secretion.

A perseverance in the above treatment was completely successful; on the third night of treatment, for the first time in his life, he avoided wetting the bed, and on the 2d of April, the urine was 1021 in spec.

\* I have remarked that many patients affected with the lithic acid diathesis, become extremely fond of salt provisions; and some boys will eat large quantities of table salt, unmixed with any other substance.

\* It is by no means uncommon to find that the excess of lithic acid, or lithate of ammonia in urine is more apparent than real, and depends upon an abnormal *deficiency* of the aqueous portion of the urine, in consequence of which the solution of these substances presents itself in a more concentrated form; the quantity of urea daily secreted not being in reality more abundant than in health. The converse of this should also be borne in mind, for where the watery portion is in excess, the urea compounds may be so diluted as to escape detection, as was the case for many years with respect to diabetes, although, as is now well known, the normal quantity of urea is daily eliminated even in this disease.

grav.; it reddened litmus paper slightly, and deposited triple phosphate in considerable quantity.\* Dr. Chas. Campbell was present at this analysis of the boy's urine. From this time forward, his general health greatly improved, and the power of retaining his urine continues unimpaired.

CASE IV.—A gentleman of great intellectual attainments consulted me, when practising in Dublin, under the following circumstances. He and a friend had gone on an excursion, during which they indulged in claret and champagne, wines to which they were unaccustomed. My patient soon became affected with great and frequent desire to make water, accompanied with pain over the region of the pubis; but these symptoms were not productive of much annoyance, nor did they excite much alarm, for it being hot weather, he also drank freely of cooling beverages, and attributed the frequent micturition to this cause. The symptoms not disappearing on his return to his ordinary mode of life, he was induced to consult me. I found him in rude health; every function performed with regularity; the urine voided in my presence appeared perfectly healthy; the slight trace of opacity produced by adding nitric acid was so trifling that I attached but little importance to it; it was also alkaline, and of high specific gravity. On examining it with the microscope, pus globules were discovered. I now ordered him to save for me, the urine passed next morning, and on examining it, I was really surprised at the quantity of pus globules it contained. As there was no evidence of disease of the kidneys, ureters, or urethra, I treated him for chronic cystitis, and with success. The microscope was of the greatest assistance in the diagnosis, but it was infinitely more useful in the latter stages of the disease, for I was induced by the evidence it afforded, to persevere in my treatment, long after the urine ceased to throw down a deposit perceptible to the naked eye; and I have no doubt that without its aid, I should have

\* I have frequently remarked the change from an exceedingly acid to an alkaline condition of the urine to take place so suddenly, that I could not attribute it altogether to the action of the medicine administered, and I have consequently considered that the phenomenon admitted of the following explanation:—We know that "if urine be secreted with so small a proportion of acid as barely to redden litmus paper, a deposit of triple phosphate often occurs a few hours after emission, a phenomenon depending partly on the influence of the mucous matter present, which, exciting a catalytic action like a ferment, induces the decomposition of urea, and the formation of carbonate of ammonia, which, by neutralizing the solvent acid, throws down the phosphates" (see *G. Bird*, p. 195). This change is favoured by the decrease of lithic acid diminishing the irritability of the bladder, and thus enabling it to retain the urine in its cavity for a longer period, so as to favour still further the continuation of the chemical process; for it is in cases accompanied by frequent desire to empty the bladder, or, if the patient be a child, with "wetting the bed," that we most commonly observe this sudden change take place.



left off the remedies long before the disease was completely eradicated.

**CASE V.**—Some months ago I was requested by Dr. George Campbell to allow him to examine with my microscope the urine of a young gentleman, who laboured under symptoms of stone, and in whose bladder Dr. C. had distinctly felt a small calculus some time previously.

It appeared that though the patient had voided the stone through the urethra, yet the symptoms of calculus still remained, and the urine continued to throw down a copious deposit, and retained its highly acid qualities. On placing a drop of it under the microscope, the sediment was found to be composed of immense lozenge-shaped crystals of lithic acid. Dr. C. informs me, that notwithstanding the employment of measures to correct the formation of uric acid, and to improve the general health, that the young gentleman still labours under many of the symptoms for which he was consulted; and from what I have heard of his case, I coincide with Dr. C. that it will be extremely difficult to prevent the formation of a stone. Though the employment of the microscope has not led to as satisfactory results in this case, as in the others, yet its extreme value in clearing up the diagnosis cannot be questioned. Indeed Dr. C. was himself so convinced of its importance in practice, that he immediately determined to procure one for his own use.

**CASE VI.**—A strong, healthy man, aged 30, who had been under the care of my colleague, Dr. Hall, in the Montreal General Hospital, for gonorrhœa, and was discharged cured of the complaint, came to me about a month after his dismissal from hospital, complaining of frequent desire to make water, and of pain and difficulty in doing so. As there was no discharge whatever from the urethra, I thought it advisable to pass a catheter, and not meeting with any obstruction, I collected the urine drawn off by it, and examined it at the moment. It was slightly acid, spec. grav. 1024, at temp. 72° Fahr., coagulated on addition of nitric acid, and yielded an abundant exhibition of pus globules on examination with the microscope. Having no symptoms referrible to disease of the kidneys, I treated him for cystitis, and with decided benefit at first, but as he had not a comfortable residence, and was obliged to walk a great distance to my house, in the late hot weather, I recommended him to enter the General Hospital under my care. Here I had frequent opportunities of directing the attention of the students to his case. The urine being again examined, exhibited not only a deposit of pus globules, but also of blood globules. Notwithstanding this unfavourable complication he was

discharged about five weeks after admission perfectly cured.

In this case I injected nitrate of silver solution into the bladder; the quantity of pus immediately diminished, and after the third injection completely disappeared. The microscope was of the greatest aid to me in every stage of this investigating case.

**CASE VII.**—Through the kindness of my friend and former preceptor, Dr. Hutton, Surgeon to the Richmond Hospital, Dublin, (whose grand discovery of the modern method of applying compression for the cure of aneurisms, places him in the highest rank amongst the Surgeons of Europe,) I was enabled to examine the urine of a little girl, from whom he had removed a mulberry calculus. Notwithstanding that the operation was most successful, the patient did not gain strength and flesh, in proportion to the expectations of her medical attendant. Having examined the urine, I found it still throwing down copious deposits of the oxalate of lime crystals, and a great quantity of epithelium. It was then quite clear, that though the calculus was removed, yet that the oxalate of lime diathesis was still present, and that until this peculiar state of the system was improved, no amendment of the general health could be expected. Attention to this circumstance soon substituted a lithic acid deposit for that of oxalate of lime, and this change was followed by the patient's restoration to health. Here the microscope not only led to an immediate change of treatment, but in all probability prevented the formation of a second mulberry calculus.

I could enumerate several other cases of urinary diseases, in which this instrument has afforded the greatest assistance in diagnosis; for I make use of it almost as frequently, as I do of the stethoscope, where that instrument can be employed; and I have no hesitation in stating, that it is equally important in practice, more demonstrative in the phenomena it discloses, and if possible, more agreeable in its study. It is not merely in the analysis of the urine that the microscope is of use to the practitioner, but likewise in the examination of all the other fluids poured out both in health and disease. It is more readily employed than chemical analysis; for at one glance, we can tell the constituents of the smallest quantity of a fluid. We all know, that we sometimes meet with diseased secretions, the true nature and composition of which, we should much wish to ascertain, and it not unfrequently happens, that those products occur in such small quantities, as to defy of an accurate chemical analysis being made. But this objection cannot be urged against the microscope, for a drop, nay, a quarter of a drop, is quite sufficient for our purpose.

The chemist having once made his experiment with a fluid, has done with it, he cannot repeat it, nor can he demonstrate the changes that have taken place in the same substances a second time. Not so with the microscopist; he can examine the same drop with powers varying from the lowest to the highest range, and with different intensities and varieties of light and shade.

It may be urged by those who have not kept pace with the progress of modern science, that the indications furnished by the microscope are fallacious; that much discrepancy exists as to the results of its use in the elucidation of physiology. But they merely speak of the state of that science when its doctrines were enforced on their attention; they do not express its present condition for we find men at work, in all parts of the civilized world, with instruments, constructed on sound principles, producing results, often exactly the same, though their labours have been carried on in ignorance, that others were toiling in the same field. Again, we see the London physiologist corroborating the doctrines promulgated at Berlin and Vienna, and *vice versa*. These facts are sufficient answers to those, who, too lazy, indifferent, or incapable, affect great reluctance in admitting the utility of the microscope in practice. It is true, that like the stethoscope, we shall have many pretenders to a knowledge of its powers—many who, without instruction or adequate study, will affect an intimate acquaintance with the details of its employment—many who will undertake to teach, before they have entered upon the proper track to learn—and no doubt, we shall have, as in the case of the stethoscope, those who, without study, without opportunity for learning, without even having examined a single substance microscopically, will strive to undervalue its revelations and ridicule its pretensions.

But we are not without evidence, that the same men, who cried down the stethoscope, (or neglected its study,) pretended to be shocked at the indelicacy of the speculum vaginæ—is it not natural to presume, that they will sneer at the microscope? It is not for such scoffers at science that I have made the present communication, but for that large class of practitioners throughout the country generally, whose desire for knowledge, and zeal in its acquirement, are exemplified, not only in the patronage they bestow on this Journal, but also in the support they have given it, by their numerous and valuable contributions.

In the preceding remarks, I do not lay the least claim to originality. My object has been, to encourage others to avail themselves of a means of diagnosis which I have found most valuable, and I thought this end would be best attained by introducing a few cases selected at random, illustrative of its utility.

The reader is not to conclude, that because I have not noted down the chemical analyses in the above cases, that I neglect or undervalue this aid in diagnosis—far from it. The gentlemen who attend my clinique at the Montreal Hospital, are well aware, that I attach a great deal of importance to this branch, and that I lose no opportunity of enforcing its practice upon their consideration; but I have not entered into these details on the present occasion, as my object has been, to introduce my readers to a more simple and exact method of analysis.

## **APOPLEXY FROM THE RUPTURE OF AN ANEURISM OF THE ARTERIA CEREBRI MEDIA.**

By E. M. HODDER, C. M., Toronto.

*Proceedings of the Medico-Chirurgical Society of Toronto.*

Master H., æt. ten years, fair complexion, and highly nervous temperament, received a severe shock at about half-past eight o'clock, p. m., on the 4th November last, in consequence of a fire, which at the moment was supposed to be in the building in which his father had his offices. The child had always been observed to become highly nervous whenever the alarm of fire was given. He had a largely developed head, pale countenance, a somewhat delicate constitution, and generally a depraved appetite, preferring crude vegetables and unripe fruits, to more wholesome food.

In consequence of this, he suffered occasionally from derangement of the stomach and bowels, always attended with severe headache; but, an occasional emetic and purgatives relieved him in a day or two.

Three or four weeks prior to the present date, he had had an attack as above described, during which time he complained very much of his head, but for the last fortnight he had appeared in perfect health.

On the alarm of fire being given, he ran into the street, but returned immediately to the house and watched the progress of the flames from a bed-room window; in three or four minutes he gave a sudden and violent scream, complaining of acute pain in the head, behind the left eye; the pain continued some minutes (two or three) during which time he uttered frequent screams.

He was taken down stairs to the sofa by his mother, but finding himself uncomfortable there, he walked into the next room, and was assisted on to the bed. His mother ran out of the room for a glass of water, and upon her return found that he had fallen off the bed, and was completely insensible.

Drs. Rolph and Rankin were the first medical men who saw him; he was still insensible, the surface of the body cold, pulse very slow and thready, in fact, scarcely perceptible, as were also the carotids; the right pupil

was much dilated, the left contracted, his breathing spasmodic, with long intervals between each inspiration, the bronchi charged with mucus, producing a very loud râle, and threatening suffocation. A few drops of blood had flowed from his mouth when first attacked.

On my arrival, about half an hour from his seizure, his breathing had become more regular, the râle somewhat diminished, and the pulse, which was still very slow (forty-five), rather more perceptible, but in other respects he continued as above described.

He remained in this state until about ten p. m., the pulse at times a mere thread, at others somewhat fuller; the mucus now increased in quantity, the respiration becoming more laborious and spasmodic, the left pupil began to dilate, and bloody frothy mucus flowed in large quantities from the nose and mouth until about half-past ten p. m., when he expired.

*Sectio Cadaveris* fifteen hours after death.

The face and body generally were pale and exsanguine, but the ears and posterior part of the scalp were of a purple color. On dividing the scalp half an ounce of dark fluid blood flowed from the wound; the bones of the cranium also bled freely when cut with the saw.

On removing the calvarium, the dura mater was found highly congested, and between it and the tunica arachnoides on the left side, an extensive clot of extravasated blood was perceived extending from the middle of the anterior to the back part of the posterior lobes of the cerebrum, and reaching upwards to within an inch of the sagittal suture. On removing the brain from the skull, blood was found extensively extravasated between the pia mater and the substance of the brain, particularly around the circle of Willis, and more on the left than on the right side. The exact spot from which it had flowed could not be found until a very careful dissection of the arteries was made, commencing with the basilar.

At the termination of the internal carotid in the *arteria communicans posterior*, *arteria cerebri anterior*, and *arteria cerebri media*, a small clot was discovered which seemed to proceed from one of the above-named vessels, and upon a more minute examination, the *arteria cerebri media* was found dilated about a quarter of an inch from its origin to the size of a small garden pea, which dilatation was filled with a clot connected with the small external coagulum above mentioned, by means of an irregularly shaped opening in the dilated part of the artery, and from which it was evident the whole of the blood had flowed. The continuation of the *arteria cerebri media* in the fissure of Sylvius was

normal. The brain itself, although very large, was perfectly healthy, nor were there more vascular clots perceived on cutting it than usual. The lateral ventricles contained about 3ij., each of bloody serum. The *plexus choroides* in the left lat. ventricle was somewhat paler than that on the opposite side, a fact arising no doubt from the rupture of the *arteria cerebri media*, so near the origin of the artery of the *plexus choroides*.

*Chest*.—The lungs were somewhat congested, particularly their posterior portion, nor did they crepitate as much as in their healthy condition; on cutting into them, a very large quantity of frothy mucus, tinged with blood, flowed, and the trachea and bronchi were completely filled with the same. Each plural cavity contained about two ounces of clear serum.

The heart appeared to us as if the left ventricle had contracted very firmly on a hard clot, as it gave the idea of being completely solid, but upon opening it, its cavity was quite empty, but its walls thickened or hypertrophied to very nearly an inch. The other cavities and the valves were quite healthy. The thymus gland was very large for a boy of his age. The whole of the abdominal viscera were quite healthy—the bladder was half filled with urine.

Toronto, February, 1846.

## CONTRIBUTIONS TO CLINICAL MEDICINE.

BY J. CRAWFORD, M. D.,

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*Case, Erysipelas, Rheumatism, Jaundice, and Abortion, followed by Puerperal Fever and Death.*

Mary French, ætatis 19, a Canadian, unmarried, of spare figure, dark sallow complexion, and bilious temperament, was admitted into the Montreal General Hospital, (18th October, 1845) for an extensive erysipelatous eruption over the right arm, elbow and forearm, which she has had for six days. About two or three days previous to the appearance of the erysipelas, her right elbow and right knee were affected by rheumatic pains, which subsided on the appearance of the exanthem; and she has not had any pain since, unless what may be attributable to the erysipelas; she has also been affected by jaundice for about the same length of time. She had not any thing done for her complaints previously to her admission; at which time her right arm and forearm were considerably swelled, and covered by a bright erysipelatous eruption. The adnata of her eyes was very yellow, and her skin generally tinged of the same hue; her urine was also deeply coloured. The limb was stiff and painful, but nothing to compare with the pain she had suffered at first. She

had also smart febrile symptoms, her pulse 108, full, tongue foul, with nausea, hot dry skin, and thirst. She was ordered a purgative of jalap and calomel, and her arm was directed to be brushed over with the tincture of iodine. 20th. The limb is much less swollen, and the redness is paler, and has not extended any farther; there is, however, a good deal of anxiety of countenance, and indication of bodily suffering; her bowels are freely open by the purgative, and she has been taking calomel and Dover's Powder four times a day; she is also ordered the infusion of senna to keep up an action in her bowels. 25th. The erysipelas has gradually been subsiding since last report, and is now much better. A small tumor has made its appearance a few days ago, on the inner side of the right elbow, which feels as if there were a collection of matter formed; it is, however, decreasing, and appears as if it would be dispersed by the tincture of iodine, which has daily been applied to it. There is still considerable febrile disturbance, with flushing and anxiety of countenance, and profuse acid perspiration, particularly at night; and she complains since last night of rheumatic pain of her right knee, and of her left wrist, which are both slightly swelled; there is no abnormal sound from the heart. The icteric colour of the adnata and skin generally, is still very marked; she slept but little last night, from the pains; her bowels are free. She continues the calomel and Dover Powder, and the application of the tincture of iodine, and in addition is ordered an anodyne draught at night. 28th. The erysipelas nearly gone; the right elbow is affected by severe rheumatic pain, and is very powerless. The left wrist is much easier; there is a small soft tumor at the carpal extremity of the left radius, apparently containing matter. The right knee is still painful, pulse 132, febrile symptoms rather less. In addition to the medicines she was using, she was ordered also nitrate of potass 3vi. in barley water lbij, to be taken during the twenty-four hours.

November 2d. She is reported better, the pains much easier, and the erysipelas gone; the jaundice much as formerly.

7th. The pain of the wrist, and tumor on the radius, both less; rather more pain of the right elbow and knee, the forearm mottled blue and yellow, as if the limb had been bruised; slept better; she continued her medicine; no mercurial effect from the calomel. From this time her complaints became considerably aggravated; her sleep was quite interrupted; she took a grain of opium every two hours, without any effect; her stomach became irritable, and she threw up bile; the nitre was discontinued, as it probably had disagreed

with the stomach; the infusion of senna was ordered, and the opium to be continued in grain doses every hour; poppy fomentations to the painful parts. From this she appeared to derive relief; she slept better, and she could bear to move the affected limbs. There was still occasional bilious vomiting; she took from 8 to 12 grains of opium in the 24 hours; her bowels were kept open by the infusion of senna; the calomel had been omitted for some days. 18th. She has been tolerably easy since last report; this morning it was stated that she had a miscarriage in the night, the foetus being about four months, of which condition we had no suspicion. There was now a good deal of febrile excitement, pulse 120 small; the rheumatic pains trifling. Next day there was abdominal pain, augmented by pressure, the febrile symptoms persisting. Ordered fomentations to the abdomen, by means of a bag of bran wrung out of hot water, and ol ricini 3i, cum. tr. opii 3i. These means afforded only very temporary relief, and she passed a restless night, and raved much; pulse 130 small, and not very hard; abdomen very tender. Ordered to be cupped on the abdomen, and to have a blister to the nape of the neck. These remedies produced very little effect. She became wayward and uncontrollable; her countenance and conduct indicated mental alienation; her pupils were dilated; pulse 144; tongue clean; her abdomen having been blistered on the previous day, it cannot be ascertained how far the internal pain is better. From this time she appeared to improve a little; her countenance more natural; she did not complain so much of her abdomen; lay on her side, and moved her limbs freely; she, however, was constantly desirous to leave her bed; pulse 144 hard, bowels free. Ordered Tr. digitalis M. viij., and antimon. tartar. gr.  $\frac{1}{2}$  in aqua cinnam., 3i. omni hora. On the 24th she is reported to have slept well during the night, and was much better, and more at her ease. She moved her limbs freely; her bowels, still tender on pressure, were freely open; the dejections dark and bilious; pulse 132, small and not so hard. Was ordered to repeat the blister, and to take calomel and opium four times a day. The following day she was much worse, and seemed very low; her pulse rapid, but still of tolerable volume; had passed a bad night, and seemed to complain of abdominal pain on pressure, but it could not be ascertained whether this was not owing to the effects of the blister. She was ordered to be again cupped on the abdomen. She died next day, after I had left Montreal for England. No *post mortem* inspection was made of the body.

REMARKS.—Although erysipelas is usually, if not uniformly, accompanied by a derangement of the biliary function, of which we have in most cases sufficient in-

dication, in the discoloration of the albuginea, and the state of the dejections, I have never seen so obstinate a case of jaundice associated with erysipelas, upon which a long perseverance in the use of mercurials and purgatives did not seem to produce any very decided effect. The association of erysipelas, and other exanthemata, with rheumatism, has been noticed by Dr. Todd, and some other modern writers, and of which I have met a few of these complications. Two other cases of erysipelas and rheumatism occurred in the hospital, about the time the above case was under treatment. The other eruptive diseases which I have seen associated with rheumatism were scarlatina, roseola, and erythema nodosum. Dr. Todd is of opinion that rheumatism, as well as these exanthemata, depend on some morbid alteration of the blood. His views appear to be favoured by some more recent investigations, and may probably eventually be generally adopted. This association (although, in some cases, it materially complicates and aggravates the case) does not interfere with the appropriate treatment of each. When, however, the three affections become combined, the case then becomes of a very serious nature; and when abortion and puerperal fever become superadded, the prognosis is extremely unfavourable.

There was a further peculiarity in this case, namely, the rare formation of matter, as a consequence of rheumatism; its absorption, I think, may fairly be attributed to the effects of the iodine. A question suggests itself, did the abortion arise from the rheumatism seizing on the uterus? I think we may fairly admit this to be the case, as no other satisfactory cause offers in explanation. She had not been taking any drastic medicine, nor was there any particular aggravation of her complaints at the time.

It is to be regretted that a *post mortem* inspection was not made, as much pathological information might be expected to result therefrom.

Montreal, Sept. 16, 1846.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON SYPHILITIC INFLAMMATION OF THE EYE.

(Continued.)

By A. JACOB, M. D., F.R.C.S.I., Professor of Anatomy and Physiology in the Royal College of Surgeons, and one of the Surgeons of the City of Dublin Hospital.

In addition to, or in combination with mercury, the remedies and treatment already alluded to as resources in cases of simple uncomplicated inflammation of the eye must be employed in syphilitic iritis, or in certain cases must be substituted for mercury. Iritis will, it is well known, sometimes make its appearance while the system is under the influence of mercury administered for the cure of secondary symptoms of venereal, or it will become station-

ary and untractable while the mouth is still sore from mercury given for its cure. In such case the treatment to be adopted becomes a question of importance and often of difficulty. To bloodletting, local or general, and other means of depletion, we are frequently unable to resort, because they have either already been employed, or they are inadmissible in consequence of the debilitated state of the patient. We are therefore called upon to adopt some other plan or remedy, and to select from those usually employed in other complicated forms of inflammation that best suited to the particular circumstances of the patient. Mr. Hugh Carmichael points out such cases as examples of disease likely to be benefited by the spirit of turpentine, and it is obvious, that as it affords a fair prospect of advantage, it should have a fair trial; guarding, as far as possible, against nausea or strangury. Should this fail, or should it be ineligible, the iodide of potassium may be resorted to either alone or in combination with bark or sarsaparilla. Mr. Carmichael, in his lectures on Venereal Diseases, published in the *Medical Press*, bears the following testimony to the value of iodine in the treatment of the secondary forms of syphilis:—"For the cure of the different constitutional symptoms of this form of venereal, there is no remedy so much to be relied on, in conjunction with sarsaparilla, as iodine; which latter medicine, and its combinations, I consider as a remedy of the utmost value in the treatment of this as well as of the phagedenic form of venereal disease, which includes the most formidable and hitherto most unmanageable cases met with in practice. I began to use it very soon, in cases of venereal nodes, after Dr. Coindet of Geneva, had made known its utility for goitre; on the principle, that a medicine, capable of inducing the dispersion of a tumour so obstinate, might be equally efficacious in removing affections, however different, of a similar obstinacy in the bones, in cases where I had reason, from the accompanying symptoms, to dread the injurious effects of mercury; I therefore exhibited iodine or hydriodate of potash in this hospital many years since for secondary symptoms of these forms of venereal disease, with the most flattering success, long before there were any published accounts of its utility in venereal complaints. At present I believe it is used extensively, but without much discrimination or selection of symptoms. I began with giving iodine to the extent of a grain, with six or eight grains of the hydriodate, dissolved in a pint of distilled water, directing the patient to take a third of this quantity morning, noon, and night. At present the hydriodate of potash is usually preferred, and given to the extent of from fifteen to thirty grains, with a pint of decoction of sarsaparilla, during the day. I am not certain that the one mode has any advantage over the other; but in both ways as a remedy, iodine has exceeded, in the two forms of disease alluded to, my most sanguine expectations."

This evidence in favour of iodine in the treatment of secondary symptoms of venereal in general would justify our employing it in syphilitic inflammation of the eye even if experience had not proved its beneficial operation. Mr. Lawrence also bears testimony to its value. "In some cases (he observes) where mercury has disagreed, or where after a fair trial the affection of the eye has either not improved or got worse, I have lately employed with excellent effect the iodide of potassium, giving three or four grains in two or three ounces of the compound decoction of sarsaparilla three times a day. The beneficial operation of the change seems analogous to what we observe from the same succession of remedies in certain cases of venereal disease." I have myself used iodine freely and extensively in inflammations of the eye, and have frequently employed it in cases of syphilitic iritis in which mercury was not eligible. Although it cannot be relied on as a means of arresting inflammation or as an antidote to venereal disease, equal in power to mercury, it may I believe be looked

upon as possessed of these powers in a less degree; at least I can say that lingering inflammation appears to give way under its use more certainly and rapidly than when it is not employed, and I can positively state that I have treated formidable relapsing inflammations of the eye of scrofulous character, but originally syphilitic, with it successfully. It must not, however, be forgotten that inflammations of the eye, like all other inflammations, sooner or later subside, be the treatment what it may, or even without any treatment; and that syphilitic inflammation runs its course, and finally disappears also; too much importance should not, therefore, be attached to this or any other remedy, lest by relying on it exclusively, we neglect others. We have always to bear in mind that in treating inflammation of the eye we should, after failing to subdue the vascular action at the commencement, direct our attention to the prevention of those disorganizing processes of this condition of parts; and keeping this in view, I think that both from theory and experience iodine is entitled to confidence. I have generally given the iodide of potassium in the cases alluded to either alone or in decoction of sarsaparilla or bark, as the syphilitic symptoms or debility of the system may require the one in reference to the other; and I have given it to the extent of ten grains three times a day. I have also given the combination of iodine and iodide of potassium, as suggested by Mr. Carmichael, and I do not think that I can with safety state that the latter was less effectual than the former.

If turpentine or iodine be found ineffectual or inapplicable in the treatment of syphilitic inflammation of the eye not admitting of relief by mercury, the practitioner has to consider what other remedial resources are within his reach. He has indeed in some cases of inflammation of the eye, modified perhaps by the constitutional influence of syphilis, scrofula, rheumatism, and mercury, to encounter often the greatest difficulties which practice presents. Bleeding, local or even general, may, in certain cases, be still available, and may be followed by antimonial medicines and other antiphlogistic treatment; but this does not often happen, the state of the constitution more frequently requiring nutritious food and preparations of bark or other tonics. Sarsaparilla, colchicum, and guaiacum, afford the best prospect of advantage where rheumatic constitutional disease exists, and the hydriodate of potash in decoction of bark, with some tincture of the same, promises best in scrofulous habits. In these cases where we may say mercury has gone astray, the disease remaining stationary, and the general health impaired, I generally discontinue all medical treatment for a time, and make such change as to diet, ventilation, and temperature, as can with safety be adopted. Practitioners are sometimes too anxious to push powerful remedies to the utmost without delay, apprehensive that the inflammation is causing rapid disorganization, but there is often no necessity for this hurry. The inflammation, we may say, at this period has spent its force and assumed a chronic form, requiring more a steady and continued plan of well considered treatment than any sudden change of a very decided nature. *Festina lente* is frequently the maxim to be inculcated, and in accordance with it, I generally find myself acting. In private practice, when I am permitted to have my own way, I am in the habit of commencing by getting rid of all those incumbrances which accumulate in a sick room, and making such arrangements as will secure the admission of light and fresh air; an object often difficult of accomplishment; such places being generally more like the crowded storerooms of furniture dealers than apartments provided for human beings. All medicine is then discontinued for a time, and nutritious digestible food substituted for slops and compositions offensive to the stomach and pernicious to the system. The patient, if in bed, is quietly dressed and placed in his chair, and if circumstances admit of it, in a day or two is removed to a sitting

room, and every arrangement made to restore him to the comforts of which as an invalid he was deprived. This being done, the remedies above enumerated may be again resorted to, and the most appropriate either resumed or administered for the first time. To those who rely on the abstraction of the blood from the system and suspension of the process of nutrition by denial of food in the treatment of inflammation during its entire progress, refraining from the use of the lancet and application of leeches, will obtain little favour; nevertheless it is an undoubted fact that inflammation is often rendered less destructive by preserving the natural powers of growth and respiration unimpaired. I may not go the length of Mr. Hewson, when he says, "the patient may be saved the inconveniences of bloodletting or blistering, as they do not afford the smallest benefit, nor will they allay a single distressing symptom; and the same may be said of purgatives; in which respects the venereal ophthalmia is singular, and differs from all other analogous affections," but I feel much inclined to give a qualified assent to this opinion of a trustworthy and practical man. Over and over again I have treated relapsing cases of inflammation of the eye successfully without abstracting a drop of blood, which in former attacks had been treated by profuse bleeding; and I am often obliged to administer mercury while I allow the patient his usual supply of animal food, and have even to accompany it by bark or quinine. Amongst the species or modifications of inflammations of the eye, an iritis from the use of mercury has been enumerated. There does not, however, appear to be any substantial grounds for the distinction. That such inflammation occurs after, or even during, the administration of mercury, cannot be denied, but that it is a consequence of it remains to be proved. There is nothing whatever in the appearance, progress, or result of inflammation of the eye following the use of mercury to justify us in assuming that it is of peculiar character; neither does the treatment require particular adaptation to any peculiar condition of the parts.

Syphilitic inflammation of the eye is sometimes, although rarely, met with in infants, and it may be assumed that its rare occurrence is to be attributed to the comparative infrequency of syphilitic disease at this time of life. The practitioner should therefore bear in mind the possibility of the existence of such disease when called upon to attend to infants suffering from diseases of the eye, or of its future appearance in those labouring under symptoms of syphilis, without any present appearance of iritis. This it is necessary to inculcate, because syphilitic inflammation of the eye sometimes takes place in infants, as in adults, unaccompanied by any other form of the disease; and is sometimes accompanied by such slight increase of vascularity or other appearance of disease that it may escape notice. In the early stages, redness of the sclerotic, discoloration of the iris, and irregularity of the pupil, are the appearances to be observed; and at a more advanced period, alteration in shape of the sclerotic and cornea, contraction of the pupil, and adhesion of its margin to an opaque lens. Sometimes a dilated and irregular pupil with a transparent lens is the consequence; but in either case, when the disease has escaped observation, or has been neglected or mismanaged, insensibility of the retina or amaurosis and consequent blindness remains. At this time of life little information as to the extent of the disease can be obtained from trial of the visual power of the organ. The baby will grasp at a watch or other bright object presented to it as long as any degree of sight remains, but slighter defects of vision can scarcely be detected. It is therefore necessary to make a very careful examination of the eye, and close inquiry as to the presence of other syphilitic disease, or of its previous existence. I see these cases oftener after the mischief has been done and the organ destroyed than during the commencement of the attack when it might be

saved; yet even at this period, the emaciation or defect of nutrition, arrested growth, and pallid dingy skin, proclaims the nature of the disease; and sometimes other forms of it, even now, may be detected. I was lately called on to see one of these cases, considered to be simple cataract, in a child of three years old. The pupil was contracted, and adherent to an opaque lens and capsule, and vision was irreparably destroyed. This occurred when the child was only a few months old, yet on examination I found the tongue studded with small irritable ulcers and clefts, and a soft condylomatous elevation at the anus, which speedily disappeared after the administration of some *hydrargyrum cum creta*. The treatment of syphilitic inflammation of the eye in infants does not differ from that prescribed for adults, except in degree. Mercury and the local application of extract of atropa belladonna during the existence of the inflammation, and tonics, alteratives, and generous diet, should the disease linger, constitute the principal resources. Of the preparations of mercury the *hydrargyrum cum creta* appears the most appropriate and convenient, and in acute cases it may, with advantage, be combined, at first, with James' Powder, or other manageable antimonial. Sarsaparilla, iodine, and bark, can be resorted to as auxiliaries if necessary.

#### GENERAL ERETHISM PRODUCED BY INJURY OF THE MEMBRANA TYMPANI.

By JOSEPH B. COTTMAN, M. D., of Whitehaven, Md. (in a letter to Prof. Dunglison.)

March 28th, 1846.—Mrs. J., on the night of the 28th, while picking her ear with a knitting needle, accidentally passed it in too far, so as to injure the membrana tympani; the effect of the injury was instantaneous; she seized hold of the nearest object to prevent her from falling from the chair, and called for assistance. With some difficulty she was carried to an adjoining room in a state of insensibility; being placed on a bed, she recovered her reason sufficiently in a little while to tell what had happened to her. *State at this time.*—Expression wild, pupils very much dilated, face flushed, the least motion of the head seemed to give the most excruciating pain; she would scream aloud; tetanic twitching of the muscles of the arm;—pulse strong, full and bounding; violent throbbing of the carotids. In the course of fifteen or twenty minutes, this state of things was succeeded by general syncope; her face would become blanched, her extremities cold, long and laboured respiration, with occasional sighing; this would continue for half an hour or more, before she could be aroused; when aroused, her conversation was incoherent, her face flushed, pupils preternaturally dilated, violent sick stomach, with occasional vomiting; rigors; extremities cold. This state of things continued alternately from 10 o'clock at night until 3 o'clock in the morning, when she fell asleep. Slept about three hours.

March 29th, 6 o'clock, A. M.—Still complained of pain in her head: the least motion aggravated it; said that her mind was very much confused, that she could not think; face flushed; pupils dilated; tetanic twitching of the muscles of the extremities; occasional flushes of heat and cold as she described it; pulse full, strong and corded; conversation at times incoherent, I tied up her arm, and took about a quart of blood with decided benefit; her pulse became natural; her mind clearer; talked more rationally; said that her head felt better, that she could hear a little in the injured ear. Up to this time she had not heard at all in that ear from the time of the accident. She felt so much better that she desired her female attendants to take her dress off; in attempting to do so she was placed in an upright position, this produced syncope which continued for nearly an hour; during this time her breathing was stertorous and laboured; her extremities cold; occasional twitching of the muscles of the arm; pulse very slow and feeble; it was with the utmost difficulty that she could be aroused, and when aroused complained of being very chilly; violent sick stomach and a constant disposition to vomit. In the afternoon, two small blisters were applied behind the ears; these drew well, and produced a general amelioration of all her bad symptoms; she fell into a quiet sleep at night, and slept well until morning.

March 30th, 6 o'clock, A. M.—On awaking in the morning she had considerable fever; restless; thirst urgent; nausea with a disposition to vomit; about twelve o'clock the fever passed off, and she said she felt much better; could turn in bed without producing any unpleasant feeling about her head; mind clearer; talked more rationally; expression better; thought she could hear better. In the afternoon she fell asleep, and slept till near night; at this time I left her; I saw her again about 9 o'clock, P. M.; at that time she was decidedly better than she had been; expression natural; talked rationally; says she is entirely free from pain.

March 31st, 6 o'clock, A. M.—Did not sleep well last night; return of fever, restlessness; thirst very urgent; craves ice; complains of a roaring in the injured ear like distant thunder; says that she sometimes loses her senses; cephalalgia very great, confined to the forehead; fever passed off about 10 o'clock, when she fell asleep; slept about an hour with decided benefit; says she always feels better after sleeping. In the afternoon I gave her eight grains of blue mass.

April 1st, 6 o'clock, A. M.—Slept well; fever very slight; a general improvement in her situation; slight roaring in the injured ear; blue mass has not operated; took half an ounce of calcined magnesia; this produced a gentle action on the bowels. From this time, she gradually convalesced without a return of any of her unpleasant symptoms, and is now perfectly restored.—*Medical Examiner.*

#### TREATMENT OF LEAD COLIC.

During the three years that I was with M. Gendrin, I saw a vast number of cases of lead colic; we had, indeed, nearly always two or three men thus affected in our wards, sent from the carbonate of lead manufactory at Clichy. All of these cases were treated with sulphuric acid, and I do not recollect having seen one in which the disease proved refractory to the treatment adopted,—a case or two of confirmed chronic paralysis excepted. The duration of the treatment, as far as I can collect from my notes, was about three days in slight cases, and six or seven in severe ones. The sulphuric acid was given, largely diluted with water (forty-four drops to a pint of water); two or three pints being administered in the twenty-four hours. The amount of pure strong acid taken in that time was, therefore, from one drachm and a half to two drachms. Sometimes the sulphuric lemonade, as it was familiarly called, was vomited as soon as ingested. Still when this was the case, the patient was made to persevere in its use, and the stomach soon became accustomed to the acid, and retained it. When it was retained, the abdominal pains generally began to diminish after the first, second or third day, the constipation soon giving way naturally, after they had become less intense. In all these instances, not a grain of any kind of medicine was given besides the sulphuric acid, nor was an enema used, the sulphuric acid being the only medicinal agent resorted to, if we except baths.

At the commencement of the treatment, a sulphur bath was given to the patient, the result of which was, that the sulphur, combining with the particles of lead that were on the skin, formed a black sulphuret. The amount of lead, which is thus discovered to encrust, as it were, the skin of those who have worked at preparations of lead, is nearly incredible. I have often seen men go into the sulphur bath quite white, and come out nearly as black as negroes. The lead lying on the skin having been thus made visible to the naked eye, the patients were supplied with a harsh brush and half a pound of soft soap, and made to scrub themselves daily in a warm bath, until all the black sulphuret had been brushed off. The sulphur bath was then repeated, the sulphuret of lead brought out, brushed off and the process renewed, until it no longer rendered visible any trace of lead.

This precaution is indispensable with all who labor under saturnine disease, if we wish to ensure patients against relapse. Whilst at the hospitals of La Pitié and Saint Louis, I have repeatedly had patients under my care with lead colic, who had been discharged as cured from other hospitals a few weeks previously. The sulphur bath, which exhibited a thick coating of lead on the skin, explained at once the cause of the relapse. Indeed, the presence of this coating of lead on the surface of the body is, no doubt, the principle cause of the relapses which are mentioned by authors as occurring so often in these diseases. The lead which thus lies on the surface is gradually absorbed, and, at last, poisoning having



ain taken place, all the symptoms to which it gives rise are manifested. No patient who has suffered, and been treated for id colic, can be considered safe unless he has gone through the trial of a sulphur bath, with a perfectly white skin. One of the great advantages of repeating the sulphur bath during the treatment is, that the patients, whom it is easy to convince of the importance of getting rid of the metallic poison, when they see it mainly on their bodies, rub with real good will.

The mode in which the acid acts in neutralizing the poisonous effects of the lead is easy to explain. It combines, no doubt, with the lead in the tissues, and forms with it an insoluble sulphate or sulphuret, which is consequently inert, and is gradually eliminated from the economy. This is the interpretation adopted by M. Blandin, and it appears rational enough.—[Mr. Bennett in *London Lancet*.]

### CASE IN WHICH THERE WAS CONGENITAL DEFICIENCY OF THE LEFT KIDNEY, AND IN WHICH DEATH WAS CAUSED BY GRANULAR DEGENERATION OF THE EXISTING KIDNEY.

By GEORGE BUSK, Esq., F. R. C. S. E., and Surgeon to the Seaman's Hospital.

The subject of the case was a gentleman who died on the 6th of May, 1846, in his twenty-seventh year. He had enjoyed good health until within three years of his decease, when he became ill, and looked ill and bloated, but was well enough to continue his pursuits, and to take tolerably active exercise up to last Christmas. In March he was affected with dropsy and albuminuria, with frequent epistaxis, and general disturbance of all the functions. The under side of the tongue and the inside of the cheeks and lips became gangrenous before death, the body exhaling a strong fœtid urinous odour. The secretion of urine however, continued, to the amount of a pint and a half in the twenty-four hours, up to the day of his death. The left kidney and superior renal capsule were entirely wanting; the ureter on that side was very small, and was inserted in the usual place into the bladder, and terminated about six inches from that viscus in a cæcal extremity. The right kidney was corrugated, and very small; the capsule closely adherent; the form otherwise normal; the substance condensed, firm, waxy, and marked on a section with white puncta and striae. Microscopic examination showed no oil, but partial obliteration of the tubular and vascular structure, and in other parts a deposit in the tubuli uriniferi of an opaque urinated granular matter, soluble in acetic acid, and presumed to be of an albuminous nature.

The author remarks that the case presented an instance of complete deficiency of one kidney, without corresponding increase in size, or alteration of shape, of the existing one, which was apparently even below the natural size; and he observes that the diseased condition there present, and the consequent albuminuria, was not owing to the deposition of oily matter in the tubuli uriniferi, or substance of the gland, but to the pathological change analogous to that which produces cirrhosis in the liver, or, as it may be supposed, to an adhesive inflammation of the tubuli uriniferi, and, probably, to the venous capillaries of the gland—a condition, in his opinion, more common as the cause of chronic albuminuria, and the other symptoms produced by what is termed granular kidney, than that in which a superabundant quantity of oil is found in the tubuli uriniferi. And he stated his belief, that in all cases where there was an undue deposit of oil in the kidney, the liver would be found diseased; and that the secretion of oil by the kidney, as in other cases that of bile, takes place by the vicarious action of that gland supplying the defective power of the liver.—*Dublin Medical Press*.

### ACCOUNT OF A TYPHOID FEVER, APPARENTLY ORIGINATING IN LOCAL MIASMA.

By ROBERT CHRISTISON, M. D., Professor of Materia Medica in the University of Edinburgh.

In the reports of the government commission appointed to investigate the causes of the unhealthiness of towns various important facts have been brought forward to illustrate the connexion of continued fever with emanations proceeding from organic mat-

ter in a state of decay. The witnesses may have assigned too wide and too exclusive an influence to such emanations in engendering and propagating fever. But they appear to have established, more clearly than was ever done before, the tendency of putrid effluvia to favour its spread and aggravate its malignity. And they have also gone far to prove, that in particular circumstances, not yet, however, ascertained with any accuracy, the same cause is capable singly of actually generating fever, even in the most malignant form.

Admitting the possibility that continued fever may originate simply in exposure to the effluvia of organic decay—and it appears difficult now to deny this doctrine—a number of deductions will result, which present important bearings on medical practice. One of the most obvious of these is, that continued fever may show itself with the characters of an endemic or epidemic in localities extremely circumscribed.

It is well known, that circumscribed epidemics do occasionally make their appearance;—that continued fever, in the typhoid form, and at times most malignant in type, has been observed to occur in very limited localities. On such occasions the impossibility of tracing the introduction of the disease to infection, the extreme narrowness of its range, and its virulence within the circle of its influence, have been peculiarities which distinguished it, in the eyes of all observers, from continued fever in the usual epidemic forms,—exciting at the same time much speculation as to its nature, giving rise to plausible, though unfounded, suspicions of poisoning, and leading in the end to no very satisfactory explanation of its origin. There can be no doubt, however, from recent experience, that events of this kind might have frequently admitted of an easy interpretation, had the observers of them been sufficiently aware of the liability of fever to arise from the insidious emanations of concealed organic matter in a state of decay.

These reflections have been suggested by a remarkable incident which lately excited a strong sensation in the neighbourhood where it happened, and which at the time went the round of the newspapers as a mysterious occurrence. Having been consulted on the occasion in two capacities, first, as physician simply, and afterwards medico-legally by the public authorities, I was led to inquire with some care into the details; which have since appeared to me so interesting, that, with the consent of the medical practitioner principally concerned, I have ventured to lay a statement of the leading facts before this society. The statement which follows is derived partly from my own observation and inquiries, when consulted respecting two of the cases, partly from a recognition by the officers of the crown, which was subsequently put before me for my opinion, but chiefly from answers to queries since submitted by me, with a view to publication, to Mr. Macnab, surgeon, at Peebles, who originally attended all the cases, and who has investigated the particulars on the spot with great care and fidelity.

In a thinly-peopled rural district of Peeblesshire,—the locality will be particularly described hereafter,—Mrs. W. the wife of an extensive farmer there, was attacked on the 22nd of January last with rigors, general prostration of strength, and great disinclination for food; to which occasional vomiting was added five or six days afterwards. She was visited for the first time professionally on Friday, the 30th January, by Mr. Macnab; who found her in the following state, as I shall give it in his own words: "She complained of rigors, pains in the back and limbs, headache, a little intolerance of light, slight sore throat and dryness of the mouth, a painful sense of palpitation along the course of the descending aorta, nausea and desire to vomit, with occasional fits of vomiting, thirst, want of sleep, total loss of appetite, and great exhaustion. The pulse was 92 and feeble, the tongue covered with a very thick brownish-yellow fur, the back of the throat somewhat red, the vomited matter partly mucous, partly bilious, the bowels constipated, the evacuations dark and offensive, and the urine unusually yellow, as if bilious. The countenance had an anxious expression, and the eyes were suffused; but there was no appearance of petechial eruption either at this time or subsequently. The temperature of the body, and of the extremities more especially, was lower than natural. There was no pain in the epigastrium or in either hypochondriac region. Under the use of frequent laxatives and diaphoretics she gradually recovered. On the 9th of February she was able to take food with relish, and for some days had been without any tendency to vomiting, so that she was left as convalescent, but with instructions that assistance should immediately be procured if any unfavourable change presented itself." Having heard nothing farther of the case for four days,

Mr. Macnab went on the 13th to inquire for her; and, to his surprise, found her labouring under all the former symptoms in an aggravated degree. "The thirst was intense, the nausea and vomiting very troublesome, the pulse 100, small, feeble, and intermittent, the tongue covered with a very thick, dry, yellowish-brown coating, the bowels very constipated, the evacuations dark, bilious, and foetid, and the vessels of the conjunctivæ much injected. But there was still no pain in the abdomen, and no appearance of petechiæ anywhere; neither was there any wandering of the mind. The remedies which were formerly of service had now no effect; the more urgent symptoms went on steadily increasing; on the 16th towards evening articulation became indistinct, and her words for the first time incoherent; and at six o'clock of the same evening she expired. An inspection of the body was not allowed. It presented after death an emaciated appearance, and a peculiar yellowish colour, but no tumefaction." Mrs. W. was seventy years of age, but had long enjoyed excellent health.

The next case was that of her husband, Mr. W., also a hale old person of seventy. He was taken ill on the 25th January, within three days after his wife. His illness commenced in the same way. On the 30th Mr. Macnab found him labouring under symptoms precisely similar to those described above, and nearly the same in degree, except that he had not so much prostration of strength, being able to sit up at the fireside. The pulse was 92, and of moderate strength. Like his wife, also, he improved under the administration of laxatives and diaphoretics down to the 9th February, when the vomiting had ceased, the appetite was tolerable, and he felt himself able to leave his bed. After this, however, the same symptoms recurred; on the 13th Mr. Macnab found him greatly worse; remedies were no longer of any avail; and he died on the 18th, two days after Mrs. W.; his mental faculties continuing, as in her case, unimpaired till a few hours before dissolution. The body, after death, had a yellowish sallow appearance, and speedily began to decay.

The third case in point of order was that of Mr. G. W., the son of Mr. and Mrs. W., who was taken ill on the same day with his father. But it may be as well to take notice in the first instance of the fourth, because it was the only other that proved fatal. This was the case of a servant girl in the family.

The disease under which Mr. and Mrs. W. died presented the characters of ordinary typhoid fever, but with certain peculiarities; and it proved fatal, like many cases of ordinary fever, about the close of the third week. The servant, Imbella M., aged 20, was seized on the 26th January with rigors, vomiting, loss of appetite, and prostration of strength, exactly as her master and mistress before her. On the 30th Mr. Macnab found her affected, like them, with "pains in the extremities, slight sore throat, nausea, and frequent vomiting, palpitation of the heart, and a troublesome pulsation in the descending aorta, urgent thirst, total loss of appetite, complete want of sleep, and great debility. The pulse was 112, and small, the tongue covered with a very thick yellowish-brown fur, the temperature below the natural standard, with occasional rigors, the bowels constipated, and the evacuations dark and offensive." The symptoms therefore were precisely the same as in the previous cases. But their progress was very different. For no abatement was accomplished by treatment; her strength was quickly exhausted; and she died in the afternoon of the 1st February, within six days and a half after being first taken ill. In her instance death was preceded by twenty-four hours by some delirium and considerable stupor; but in no other case were these symptoms so well marked as to attract notice. The body after death presented the same yellowish sallow hue of the integuments, as in the cases of Mr. and Mrs. W.

These were all the fatal cases. In addition twelve other individuals were more or less severely attacked with similar symptoms to those detailed above; and three or four other persons were more slightly affected, whom, however, Mr. Macnab did not attend professionally, and concerning whom consequently he derived his information at second hand, and in a way not quite satisfactory to his mind. It is unnecessary to describe all these cases, as they presented a singular uniformity of characters. Two only may be added, the one as an example of the disease in its severe form when not fatal, the other to exemplify the mildest form.

Mr. G. W., son of Mr. and Mrs. W., aged about 27, "after being absent from home for about three weeks, returned with his sister from the Island of Skye on the 19th January, three days before his mother took ill. On the 25th, six days after his return,

he was seized with nausea, tendency to vomit, thirst, disinclination for food, considerable prostration of strength, and slight headache. He continued in this state, sometimes confined to bed, sometimes going about a little, until the 28th, when urgent business compelled him to proceed to Edinburgh, a distance of twenty-two miles. He went thither on horseback, feeling sick and uncomfortable on the way, and vomiting a little; but he was able to remain in town till the 30th, and afterwards to ride back to the farm, where Mr. Macnab saw him next day. He then felt better, but still complained of sickness, tendency to vomit, slight headache, sore throat, and little appetite for food. The pulse was 86, and of moderate strength, and the tongue was covered on every part but the mere edge with a very thick yellowish-brown fur. Subsequently he became worse. The vomiting gradually increased in frequency, and the vomited matter acquired a bilious appearance. The bowels were obstinately constive, and the evacuations dark and bilious. The urine seemed as if loaded with bile. The lining membrane of the throat was slightly red, and the vessels of the conjunctivæ were full of blood; but there was no appearance of petechial eruption on the skin. He continued much in the same condition till the 9th February, when he became considerably better, so that he could even take a little food with relish. But on the 13th he was much worse again. The vomiting had become urgent, the thirst extreme, and the desire for food altogether gone. The pulse was about 90, rather feeble, and the tongue loaded with a yellowish fur as before. He now also complained of severe pains in the limbs, especially below the knee-joints, down the front of the tibiae, and also to a less degree in the arms and hands. He described this sensation as a painful uneasy numbness, causing incessant restlessness and change of posture; it was attended with coldness of the integuments to the sense of another person, and he derived no relief from the warm bath or hot fomentations. No change for the better having occurred in five days more, he was removed on the 18th to Edinburgh. He bore the journey well, and under the care of Dr. Begbie, began speedily to improve." On the 20th, I saw him in consultation with Dr. Begbie and Mr. Macnab, who came to town on purpose. The vomiting had ceased; but the pulse continued about 90 and rather weak, the tongue much loaded, though less so, the bowels difficult to move, and the desire for food still altogether wanting. The pains in the limbs were also distressing, and occasioned much restlessness and want of sleep. There was a good deal of languor; but he conversed without difficulty. The countenance and skin generally were pale, the eyes clear, and not injected, the expression not oppressed; and altogether the general physiognomy of the disease struck me at once as different from that which has long been familiar to me as characterizing the several forms of the infectious typhus of this city. Under the use of laxatives, calomel, diaphoretics, morphia at night, and tonics, the patient gradually threw off the more urgent symptoms, and was restored to a state of good general health. But the painful uneasiness of the limbs continued without material abatement. Even so lately as the 4th of May, more than three months after he was taken ill, Mr. Macnab wrote to me, that "the legs are somewhat swelled from the knees downwards; he complains of a sense of uneasy soreness in them, together with a numbness and want of the feeling of pain when the skin is pinched; he walks with very great difficulty; and altogether the affection seems to be of the nature of partial and incomplete palsy." [He continued in the same state on the 8th June.]

A short example of the slightest form of the disease will now conclude the narrative of cases. "Marion H., daughter of one of Mr. W.'s ploughmen, residing within two hundred yards of the farm-house, had been frequently in the house milking the cows and taking occasional charge of the two domestic servants while sick. On the 1st Feb. she was seized with nausea and desire to vomit, thirst, and the other early symptoms mentioned above. The pulse was 96, the tongue furred, the bowels constipated; but the thirst was not urgent, and the sore throat inconsiderable. Under the use of laxatives and diaphoretics she gradually recovered, and in ten days she was able to be out of doors. On the 4th of May she was in excellent health, and engaged in her usual occupation as a farm servant." Neither this patient, nor any other but Mr. G. W., and another girl, a house servant, suffered from pains of the extremities or incomplete paralysis.

The foregoing case will serve to illustrate the characters of this little epidemic, so far as the symptoms are concerned. I regret that no opportunity occurred for illustrating its pathology by as-

certaining the morbid appearances. Some important circumstances remain to be stated in regard to its appearance and propagation.

At the time it broke out in the farm-house, no disease of the kind was known in the neighbourhood. Mr. Macnab thinks he saw in his country rounds a few scattered cases somewhat similar to those of the W.'s and their servants; but none happened in the vicinity. There were fifteen people either residing in the house, or much in it during the day; and every one of these was taken so seriously ill as to be obliged to give up work, and to require medical assistance. Three or four others, who had been occasionally in the house, were also said to have sustained slight attacks; and two or three visitors, who were in the house after Mrs. W. took ill, remarked that they were sick and uneasy at stomach, and disinclined to take food. Of the fifteen frequenters of the house who were attacked, all were seized in rapid succession within fourteen days after the first case occurred. The first person taken ill was Mrs. W., on the 22nd January; Mr. W. and his son were both seized on the 25th; one of the domestic servants on the 26th; another domestic servant on the 28th; Miss W., the farmer's daughter, on the same day; and all the farm-servants in the course of the ensuing fortnight. On the 30th, nine days after Mrs. W. was attacked, Mr. Macnab found eleven persons ill. The case of Miss W. was somewhat remarkable in its circumstances. She had been for at least three months from home, residing on the Island of Skye; returned with her brother on the 19th January, three days before the first case of disease occurred, and in nine days was attacked with the same symptoms as the others, and suffered severely. I saw her as well as her brother, along with Dr. Begbie and Mr. Macnab, on the 20th February, when she was almost convalescent; and, as in the case of her brother, I was struck with the physiognomy of the disease as presenting something very different from that of ordinary infectious typhus at the same stage,—the countenance being pale, the eye lively, the expression natural, and by no means oppressed, the mind clear and alert, and the strength far from so prostrate as it is usually observed in early convalescence from our late epidemic typhus.

It appears that in the whole fifteen cases the symptoms in their nature and succession were generically the same, and with but few specific peculiarities in each; the only important specialties indeed being early death, with precursory coma, in the servant girl, Isabella M., and consecutive neuralgia with incomplete paraplegia in the instance of the younger Mr. W. and the servant girl alluded to. The leading symptoms were those of great gastro-intestinal derangement, nausea, vomiting, loathing of food, an excessively loaded tongue, and obstinate constipation; the accompanying fever was slight, and in its type adynamic; exhaustion of the nervous system, without any particular cerebral oppression, except in the single case of the servant girl, was the principal consecutive danger incurred; and in no instance was there detected any trace of the petechial eruption, which has been so general for some years past in the infectious typhus of this country.

The disease attacked most severely without exception those who resided night and day in the farm-house. Three out of six of this denomination of cases proved fatal; and the least severe case was that of the daughter of the family, who, until nine days before she took ill, had been from home for three months. On the other hand, the slightest forms of the disease, without exception, occurred among the farm servants; who, though much in the farm-house through the day, slept in their cottages, a few hundred yards off, and lay there after being taken ill.

Another remarkable fact is that the malady, which spared not a single individual who came fairly within its grasp in the farm-house, was nevertheless not communicated to any one else by those who were there attacked by it. If it spread simply by infection it must have been virulent almost beyond example for typhoid fever; since every person directly exposed was attacked. And yet no fewer than eight of the sick lay while ill in cottages inhabited by other members of their families, without a single case of propagation of the disease having been observed in these localities.

It is no wonder, then, that the pestilence appeared to the neighbourhood unaccountable. The general character of the symptoms, the great mortality, the narrow, well-defined bounds of its ravages, its unsparing sweep within this circle, the swiftness with which it embraced all within its grasp, its non-communication by the sick to those who had not been in the original locality, showed habits very different from those of our ordinary epidemic fevers.

Add to all these things the nature of the locality; and the mystery of the case appears at first even greater than before.

The farm-house is situated near the confluence of the Line and Tarth. Both streams flow through rather open valleys, here and there under the plough, and bounded by beautiful pastoral hills rising about a thousand feet above the cultivated fields. There is but little wood within a circle of a mile from the house. The country is in general drained and dry; but to the westward the fields on the north bank of the Tarth are extensively irrigated with fine river water. The house is placed on the north bank of the Line, near the junction of its tributary the Tarth; the elevation above the bank of the stream is considerable, the farm-steading is placed on rising ground behind the house; and behind that again there is about a third of a mile in breadth of waving cultivated land, bounded by one of the green grassy hills that cover a great part of the surface of Peeblesshire. Nowhere around is there a cooped-up population, among which infection may lurk unseen, to invade from time to time the neighbourhood. The population of the district is purely rural and very thinly scattered; there is scarce even a hamlet nearer than the small straggling village of Newlands on the Line, two miles to the northward; and the only town within easy reach is that of Peebles, about seven miles distant. A healthier locality could not well be chosen. Some may object to the vicinity of the irrigated meadows. But it is scarcely necessary to observe, that frequent experience has shown the harmlessness in Scotland of meadows irrigated with pure water; and besides, the nearest point of these meadows in the present instance is about half a mile from the farm-house.

The disease, then, appeared unaccountable in its rise. In the neighbourhood it was consequently regarded as mysterious; and naturally enough it was ere long ascribed to poison. No particular poison, however, was suspected; and fortunately no particular individual. But in such a conjuncture rumour must impute blame in some quarter. On this occasion it fell upon the medical attendant of the family, who was charged with misunderstanding the nature of the cases under his charge, with having been too slow to suspect their true cause, and having thus failed to detect the poison. In such circumstances medical men have sometimes allowed themselves to be carried away by the general voice, and grievous consequences have resulted. But Mr. Macnab had observed the whole circumstances with care, and weighed them with discernment; and he refused to countenance the public clamour.

Matters had been but a short time in this state, when I was consulted along with Dr. Begbie in the cases of Mr. G. W. and his sister, and was made acquainted with the particulars of the occurrence, though not in such detail, or so precisely, as they have been now stated to the society. The first idea that suggested itself was the probability of the malady being produced by the use of meat from diseased animals. But this view was at once set aside; for besides that persons who suffer from diseased meat are generally affected with diarrhoea, not with obstinate constipation, it was carefully ascertained that not a single case of natural death had occurred among the domestic animals of the farm for a long period before; and the farm supplied what meat was consumed by the inhabitants. In the next place poisoning with ordinary poisons seemed to be out of the question. None of the ordinary poisons had been used or seen about the farm for a long period; three of the parties who suffered had never taken any food or drink in the farm-house, although frequently within it in pursuit of their occupation; and besides, what poison is there which is known to be capable of causing such effects? Thirdly, a general epidemic influence, or malaria, appeared equally inadmissible. Neither the irrigated meadows, nor any other general cause, could produce a malaria, which should fall with such virulence on a single house, but entirely spare all others in the valley. Fourthly, the want of resemblance to the habitudes of ordinary epidemic or infectious typhus, already adverted to, struck the attention as something very remarkable. The disease was a typhoid fever, but yet not the typhus with which all are familiar. The invariable violence of the gastric symptoms, by no means a usual circumstance in the typhus of Scotland; the nervous exhaustion, not incapacitating, however, from prolonged exertion and fatigue, without injury,—the absence of cerebral oppression except in a single instance,—the extreme swiftness of death in that instance,—the non-appearance of petechial eruption in any case,—the physiognomy of the disease, at least as seen by me in its middle and convalescent stage,—and lastly the seizure of every habitual frequenter of the house, with the non-communication of so virulent a disorder to any of their families living elsewhere,—these circum-

stances formed a crowd of distinctions which severed the epidemic from ordinary typhus as now and lately prevalent in Scotland. A local malaria was the only conceivable cause left for consideration. No source, however, of local malaria was known. But, having in my recollection the reports of the health of towns' commission, happening to be well acquainted with the locality, which I have described above from personal observation some years ago, and remembering that the farm-yard is placed on a rising slope behind the house, I suggested that the drains might be defective, and that inquiry should be made, whether the soil around, and possibly even under the house, had not become in consequence impregnated with decaying animal matter.

Meanwhile the rumour of poisoning gained ground, and at length reached the authorities of the county in a shape which rendered a legal investigation indispensable. The subject was then brought before me a second time on the 10th of March for my opinion on the precognition taken by the Procurator Fiscal,—with the facts somewhat more precisely stated, though not so as to affect the opinion previously formed,—and with the not unimportant addition, communicated to me by Mr. Macnab, that during the occupancy of a previous tenant the farm-steading drains had been repeatedly choked up, so as to require being thoroughly cleared. It is unnecessary to reproduce here the report returned to the law officers of the county. Its substance may be anticipated in a great measure from what has been stated above. Feeling, however, the necessity of caution in circumstances so peculiar, I did not represent poisoning as altogether impossible. All slow and insidious poisons, with whose effects toxicologists are now acquainted, seemed entirely out of the question, except arsenic; and all that is accurately known of the effects of arsenic as a slow poison presents nothing precisely similar to the phenomena observed on this occasion. But the truth is, that the knowledge hitherto possessed of the action of arsenic on the human body, when insidiously introduced in continuous small doses, is either scanty or vague. I therefore limited myself to the opinion that the particulars of the incident did not correspond with anything yet known of the operation of slow poisons; that I could not altogether exclude the possibility of arsenic being concerned; but that this question might be at once settled by an examination of the body of the servant girl, in whom, by reason of the rapidity of the fatal event, arsenic, if really the cause, would be detected by analysing the liver.

This report had scarcely left my possession, when all farther inquiry was rendered unnecessary by information received the same day by Dr. Begbie in a letter from Mr. Macnab, stating, that he "had made a searching investigation into the state of the drains and sewers at the farm-house, and found them all closed up and obstructed with the accumulated filth proceeding from the necessaries and farm-yard. The effluvia," added he, "proceeding from these sources when I was there, though much of their contents had been removed, was very offensive, and was diffused in the atmosphere to a considerable distance around." I have been since favoured with a more precise account of the structure and condition of the drains. The farm-yard extends backward immediately from the house, without any interval. On each flank of the farm-yard, and outside the walls, there is a covered drain, which ends close to each side of the house. One of these side drains receives, besides the ordinary drainage of the farm-yard, the contents of three privies situated about fifteen yards from the house. A drain also extends transversely just behind the house; and various small drains join those already described. There is a small run of water through the flank drains, but always insufficient, and in the summer often dried up. The drains had never been cleared out or examined during Mr. W.'s occupancy of the farm, extending to a period of nearly three years. On the present occasion they were found all choked up with "an immense accumulation of animal matter," which infected the surrounding air to a considerable distance in the neighbourhood when the drains were cleared. It is scarcely possible but that the adjacent soil was impregnated with the pent-up pollution; but no inquiry was made as to this point; nor indeed would it have been easy to accomplish this satisfactorily. Enough perhaps has been already stated to bear out the opinion at which Dr. Begbie, Mr. Macnab, and I arrived on considering the whole circumstances of the case at an earlier period; but it is not unworthy of being added, that the farm-yard stuff had been allowed to accumulate to an unusual extent during a winter of unprecedented mild weather; and that a part of the accumulation had been heaped up very near the back wall of the house.

I apprehended, then, that the nature of this at first incomprehensible disease has in the end been satisfactorily explained. No one at least can entertain doubts on this head, who has perused with attention and impartiality the reports of the health of towns' commission.

A variety of questions, important alike in a scientific and practical point of view, might be suggested by reflecting on the narrative just submitted to the society. Among these the most fundamental are the two following:—First, was the disease, notwithstanding certain peculiarities in the symptoms, essentially the same with the ordinary epidemic typhus of the larger towns in Scotland?—and secondly, granting it arose from local miasm, as I believe it to have done, is the fever so engendered capable of propagating itself by communication from the sick to the healthy? But the present occasion is not a fit one for entering on the discussion of either of these questions; for the facts are not adequate to bear out a confident conclusion. Let me merely observe that on the one hand, any person conversant with the common typhus of towns must have seen something peculiar in this little epidemic; and on the other, that no instance did occur of its spreading to cottages at a distance, among those who did not frequent the farm-house, but who attended the sick at their own homes.

In conclusion, let it be observed, that, although this incident has been described with care, on account of its apparent rarity, it may be strongly suspected to be not so uncommon as a hasty consideration of the subject would indicate. Other farm-yards besides that of Mr. W. are placed disgustingly near the dwelling-house; and other farmers are reckless of the consequence of accumulation and bad drainage. Country practitioners are well aware that such localities present instances, apparently unaccountable, of erratic or even sometimes epidemic malignant fever. I have lately been informed of an instance, which happened in Stirlingshire, not long before this one in Peebleshire, of a farmer's family, four in number, having been entirely swept away in a very short time by a malignant typhus. An occurrence so startling and unusual might deserve an attentive investigation. But it happened at too distant a date to admit of being now inquired into with success. Meanwhile, if on similar occasions medical men in rural districts will keep in mind what has lately happened in Peebleshire, they will probably be able to show that the incident there is by no means unexampled.—*Dublin Medical Press.*

## MIDWIFERY.

### CONCEPTION OCCURRING AFTER INVERSION OF THE UTERUS.

Dewees says, at p. 512 of his *System of Midwifery*, that "we may justly entertain doubts" of the uterus having been reinstated after complete inversion. A very complete inversion of the womb is not, if it be early reposit, to be considered as obviating the liability of the patient to a subsequent conception. This I can clearly aver, upon the facts of the case published by me in the *Phil. Pract. of Mid.*, 2d Edit., p. 356, where the case as seen by the late Dr. James, by Dr. G. Fox, and by myself, is given at large. In that case the inversion was produced by violent and most painful tractions at the cord by an ignorant midwife, who supposed, after she had drawn the womb entirely forth of the patient's body, that the huge mass consisted of some unnatural state of the placenta, which, in fact, was adherent to it. The midwife even after the womb was withdrawn and hanging between the thighs of the women, made violent efforts to pull it away from her, and only desisted in consequence of her screams, and the apparent approach of death.

"I reposit this womb, not by compressing the organ between my hands, as it is usually directed to be done, but by waiting until the contraction or after-pains had ceased, and then indenting the fundus with a finger, like the bottom of a bottle, and suddenly pushing the cone upwards to the os uteri, and so into the belly again. This patient was as nearly dead from hemorrhage as any woman I have seen recover from flooding. Upon the re-establishment of her health she bore children, and in two instances was delivered by my friend and colleague, Professor F. Bache. I mention these circumstances in order to show that the extremest degree of inversion—none could be more complete—is not necessarily the cause of lesions in the ovaries, tubes, and other organs connected with reproduction, so great as to deprive them ever afterwards of the

reproductive power. Dr. Meigs relates another case in which he and other medical men examined a woman who had been the subject of an inversion of the womb for two years. They all agreed that the case was one of inversion, and the attempts made by himself and them, to reposit the organ, were without success. Nevertheless, some four years after this, she became pregnant, and miscarried of an embryo of more than three months, under the care of Dr. Warrington, who received the embryo."—*Dr. Meigs.*—(*Lond. Med. Gazette.*)

#### TWINS:—UTERINE INERTIA WITH THE SECOND CHILD.

November 25th, 1844.—Nancy Cook, 15, Simpson's Buildings, Adelphi road, Salford, aged 39, was in labor of twins. The first child which was a boy, and presented with the head, was born alive four hours and a half after the beginning of labor; it was small, as the mother was only at the seventh month of pregnancy. For an hour after its birth there were no labor-pains, but at the end of that time they came on, though they were extremely feeble and infrequent. I was sent for by the midwife of the Lying-in Hospital, who was in attendance, and saw her about four hours and a half after the birth of the first child. The woman was in a good state; the membranes of the second child were unruptured; the pains were so feeble as to have little or no effect on the amniotic sac, and there was an interval of from twenty minutes to half an hour between each pain. I considered it a good opportunity to ascertain the value of Dr. Radford's galvanic plan in renewing uterine action, so I made the necessary arrangements. In about an hour Dr. Radford and myself, in the presence of my friend, Mr. Nursaw, and my pupil, Mr. William Black, proceeded to apply the remedy. The effect was immediate; strong labor-pains coming on, and continuing whilst the galvanic circle was complete. The woman cried out that she had pain similar to what she supposed might be produced by "forks being thrust into her belly." On examining her vaginam, the membranes were found to be tense and protruding into the passage, and the os uteri was fully dilated. After the galvanic circle was broken, and the intervalic contraction thereby induced had gone off, it was remarkable to observe that so great a degree of tonic uterine action existed, that the amniotic bag could no longer collapse, but remained tense in the vagina, as it does at the height of a pain in normal labor. In the course of about half an hour the intervalic uterine action was so completely excited that we ceased to apply the galvanism; and during a pain, Dr. Radford ruptured the membranes, when the foot was found presenting. I now took charge of the case, and in about a quarter of an hour, with the assistance of slight traction, a very small female child was born alive. We applied a few slight galvanic shocks to its chest, as the respiration was feeble, with a very good effect. The placenta, which was single, came away in about twenty minutes, with less discharge than is usual in twin cases.

The mother recovered well and rapidly; but the second child which was extremely puny at birth, died of convulsions in four or five days.—*Lond. Med. Gaz.*

#### INDUCTION OF PREMATURE LABOR BY GALVANISM.

Jane Ward, aged 23, was pregnant of her second child. In a previous labor, owing to contraction of the outlet of the pelvis, I delivered her by means of the perforator and crotchet, in consultation with my colleague, Mr. Gollard. The diminution in the transverse diameter of the outlet of the pelvis being only about from half to three-quarters of an inch, I allowed her to go on to the eighth month. Dr. Radford, Mr. Stephens, and myself, had then a consultation upon her case, and it was agreed that I should endeavour to induce premature labor by means of a sponge tent introduced into the os uteri, and if this failed, by means of galvanism. Accordingly, in the presence of the above named gentlemen on the 26th of March, 1845, I introduced a sponge tent; but as it did not expand, owing to its being badly made, I withdrew it on the 31st, no effect having been produced.

On the 1st of April, 1845, in the presence of Dr. Radford, Messrs. Hunt, Stephens, Runcorn, and my pupil Mr. W. Black, I applied the galvanism for about twenty minutes, with occasional intermissions. The uterus hardened under the application, and she felt labor-pain, but this lasted only whilst the galvanic currents and shocks were given.

In about eight hours and a half after the use of this agent, the

membrane ruptured, little or no dilatation of the os uteri having occurred.

April 3d.—About forty-eight hours after the application of the galvanism, I made a vaginal examination, but there was no dilatation of the os uteri. On making an abdominal exploration I discovered the head of the child at the fundus uteri. In about three hours after I saw her, labor came on, and the child presented with the breech. The case went on well so far as regards the action of the uterus, but the child was born dead after a labor of about nine hours' duration. Mrs. Mills, an experienced midwife, who had charge of the case, informed me that she examined the funis as it came within reach, but she could detect no pulsation in it. I examined the infant, and found the face purple from congestion, and the nates and scrotum much ecchymosed. The placenta came away in an hour after the birth of the child.

The woman suffered from a severe attack of menorrhagia about twelve days after the birth of the child, which yielded to ordinary treatment and the use of the plug.

Of course, after so few trials as have been made with galvanism in the practice of midwifery, it is very difficult to form an opinion as to its exact value, and the particular cases in which it is likely to supersede means that have been previously adopted. That it is a powerful remedy there can be no doubt in the minds of those who have seen it tried, and that the uterus will respond to its application, whilst the general system is completely prostrated, is equally certain. This later circumstance is one of its peculiar merits, as I believe that there is no other means by which we excite uterine contraction that is not liable to fail when severe hemorrhage has weakened the vital powers. But the pain and disagreeable sensations produced by the galvanic shocks and currents when passed through the uterus are such as one would not wish to subject a patient to unnecessarily, and this is one of its disadvantages. For this reason I think that we are bound to try other means before having recourse to it, excepting such circumstances exist as render it hazardous to the mother to lose any time. Thus, supposing we have a case of uterine inertia, we should try frictions, pressure and cold to the abdomen, rupturing the membranes if justifiable, and even the ergot in most cases, before having recourse to galvanism. But if we should have uterine inertia, complicated with funis presentation, the funis pulsating well, and the passage in a favorable state, a case by no means uncommon, we should lose no time in applying galvanism, inasmuch as the only chance for the child consists in a rapid delivery, which, indeed, might still require the forceps for its accomplishment. I believe it to be a perfectly safe remedy, since I have never seen anything to lead me to suppose that either the mother or child has suffered from its use.

From the little I have seen my opinion is that it is a most valuable means in that class of cases for which Dr. Radford first recommended it, viz., uterine hemorrhage before, during, and after labor, in the latter months of pregnancy; and it must always be remembered that its application need not, in any way, lead us to neglect the ordinary methods of treating these cases, if there is any reason for giving them a previous trial. Of course from this statement must be excepted the old plan of delivering the child where great exhaustion of the mother is present, to supersede which practice, galvanism was specially brought forward.—*Thomas Dorrington, Esq.*—(*Lond. Med. Gaz.*)

#### ON FLOODINGS.

1. "Floodings rarely occur after natural delivery, to any extent if properly guarded against. 2. They happen most frequently after instrumental and manual deliveries, and after deliveries rendered precipitate by the violence of the expulsive action, in all of which cases they proceed from lacerations of the soft parts, sustained during the passage of the child. 3. Those which occur after labors rendered tedious by the abnormal size of the child, may proceed either from laceration or sloughing of the parts. Some rare cases are on record, in which the blood would seem to have escaped by gravity from the uterine vessels, owing to the mother having been raised into an erect posture while in a debilitated state." 4. Floodings which take place a few hours after delivery, are owing to wounded vessels which have acquired increased activity after the depression occasioned by the shock of delivery has gone off. 5. Those which take place some days after

\* How can this be, unless there are uterine vessels communicating with the placenta?

delivery are connected with sloughing of the parts, which may either have been injured in the act of delivery, or become tainted by the presence of a putrid portion of the placenta." The phenomena of floodings being thus shown to be identical with those of hemorrhages from wounded arteries, the same plan of treatment is clearly identical in both cases. Floodings, then, are to be treated by exposure to cool air, by cold applications to the parts, or, if need be, by cooling injections into the uterus and vagina; by elevated position of the pelvis, and moderate doses of opium. If arterial blood flow rapidly and continuously, an examination should be made, and if a wounded artery is detected, it should be secured by the usual surgical means.—*London Medical Gazette.*

### ON THE ACTION OF GALVANISM ON THE UTERUS, DURING LABOR.

By PROFESSOR SIMPSON.

The general results obtained from the employment of galvanism, in the eight cases which I have detailed, may be summarily stated as follows:

In one instance (Case 2,) the pains were more frequent in their recurrence, but shorter in their duration during the application of the galvanism. In five other cases (Cases 1, 3, 4, 6, and 7,) the employment of the galvanism neither increased the average frequency of the pains, nor their average duration. In one (Case 5) the pains ceased whilst the galvanism was applied, and returned upon its removal. In the instance which I have last detailed (Case 8,) the uterine action ceased while the galvanism was applied, and did not return upon the withdrawal of the galvanic action, nor for 24 hours subsequently. There was no reason whatever at the time to expect this as a probable occurrence, independently of the galvanism. But even admitting, for the sake of argument, that the cessation of the uterine action was not the result of the galvanic influence used, still the fact is amply sufficient to show that the galvanic current had not, at least, the power either of increasing the pains, or even of continuing and maintaining them when they offered to fail. It may be proper to add, that during the galvanic action, in none of the experiments did Dr. Barry or I find, in the intervals between the clonic uterine contractions or pains, any evidence whatever of unusual tonic contraction of the uterus, as shown either by any degree of hardness in the general uterine tumour, or by any degree of tension in the pressure of the bag of membranes, or the child's head against the cervix uteri.

It would be hasty and logically incorrect to deduce from the preceding observations, that under no modification, and under no manner of application does galvanism possess the power of directly exciting or increasing the contractile action of the uterus. Forms or methods of employing it may yet possibly be detected or devised affording a different result. But I believe I am justified in inferring from the preceding inquiry, that as employed at the present time, and in its present mode, it is not a means which can be in any degree relied upon for the purpose in question; and is so far practically and entirely useless as a stimulant to the parturient action of the uterus.—*Ed. Monthly Jour. Med. Sciences.*

### SURGERY.

#### ON THE ECTROTIC OR ABORTIVE TREATMENT OF GONORRHŒA.

Remarks on its treatment by Nitrate of Silver. By Charles D. ARNOTT, M.R.C.S.E., Gorleston.

That gonorrhœa is frequently productive of annoyance, as well to the practitioner as the patient, is a general admission. Often obstinate of cure, the surgeon is baffled, and the patient wearied and disgusted. These remarks apply to the simple and uncomplicated form of the disease, any treatment of which, promising speed and efficiency in operation, and probable immunity from much severe suffering, demands attention.

Gonorrhœa is, doubtless, a true urethritis of a specific

nature, and by attentive observation may be traced through all the successive stages of the inflammatory process, with as complete precision as may the vaccine vesicle, or any other well-marked illustration of this pathological phenomenon. The poison, for a series of days, varying in different cases, appears to be inert, until at length a degree of vascular excitement supervenes. This comprises the period of incubation. With vascular excitement, or simple turgescence, in the case of secreting organs and surfaces, comes temporary exaltation of their normal function; [so in the urethra an inordinate amount of mucus is secreted during this stage of the process. The exciting cause, however, remaining unabated, the action advances; the vessels of the part become more congested, and there begins to be not only simple exaltation of normal function, but perversion of it, and, last of all, succeeds true inflammation, with total arrest of all natural secretion, and the formation and excretion of true pus—the peculiar product of inflammation. The action having progressed thus far, gonorrhœa is fairly established.

Theoretically, we know that the action having attained the true inflammatory crisis, a speedy restoration to quiescence, or simple and complete resolution, cannot occur, either by nature's operation, or by artificial solicitation; whilst, on the other hand, within this point, the true inflammatory acme, we are enabled, in the majority of cases, to effect a speedy and satisfactory subsidence of the perverted vascular action. These facts intimately bear on the subject of this discussion—the ectrotic treatment of gonorrhœa.

Cases of simple inflammation, in its early stages, admit, for the most part, of complete subjugation by the continuous use of cold, which appears to exert a powerfully sedative or depressing effect on both the nervous and the vascular systems of the part to which it is applied. But in cases of specific inflammation—such, for example, as those produced by the application of a poison, cold seems to be often altogether inert; it seems to possess little or no power in arresting that zymotic process on which such inflammations seem in great part, to depend.

The nitrate of silver, I am disposed to believe, enjoys the double privilege of efficacy in both classes of cases. The endermoid application of this salt speedily subdues erythema occurring on any part of the surface, and simple cases of paronchia, where the inflammation is superficial, timely treated with it, appear to be completely under its control. The initiatory stages of chilblain are reduced by it more effectually than by any other mode of treatment, and it arrests many affections of a similar nature with equal certainty. Similar effects are observed to follow its employment in cases of a specific character, as the stings of gnats, bees, wasps, &c.; and the undoubted service it has rendered in the hands of Mr. Youatt, in the most severe form of poisoned wound we observe in this country—the bite of rabid animals—tends to prove, that in addition to its sedative quality, it has the power of effecting a decomposition or neutralization of the virus, or a complete arrest of the zymosis, by which the poison, in these cases, is multiplied in the system.

The employment of nitrate of silver in the early stages of gonorrhœa will, I also believe, prove highly serviceable, due regard being paid to the selection of cases in which trial of it is to be made. I have observed its operation on four occasions of distinct and undoubted clap, upon all of which, the success attending its use was perfect. One of these was a first attack, open to objection on the ground of error in diagnosis, but so well marked in circumstantial evidence, as well as symptoms, as scarcely to be mistaken: two others were second attacks, thus less liable to fallacy; and the remaining one a fifth attack, in which (to use the expressive language of the patient himself, 'an old stager,' in allusion to the existing ardor urinæ) 'the red-hot fish-

† Medical Gazette, vol. xxxvii., p. 150.



hooks were come.' Nevertheless the complaint was as satisfactorily arrested in the last as in any of the previous cases, by the use of one injection only, although the patient admitted, that in no former attack had the disease lasted upon him less than three months, notwithstanding the most assiduous attention to all the directions of a skilful medical man.

The mode of employing the remedy is simple. An injection, composed of twelve grains of the salt to the ounce of water, is the proper strength to use. About a couple of drachms of this, by means of an ivory (or, for obvious chemical reasons, what is better, a glass) syringe, is to be thrown into the urethra, the penis being at the same time elevated and compressed at about two inches from the orifice, thus ensuring complete application of the solution to the urethral membrane within this range, and no further. The nozzle of the syringe being withdrawn, the orifice of the urethra is to be occluded, and the solution kept in contact with the mucous membrane for the space of not less than half a minute. No urine is to be passed for half an hour after the injection, and the penis is to be kept suspended. The immediate visible effect of the remedy is to form a coagulated film on the surface of the urethral lining, and this, undoubtedly, is a main agent in effecting the cure, by the protection it affords to the delicate and abnormally sensitive membrane during urinary evacuation. That it has this effect is evidenced by the great diminution of pain which the patient at once experiences during micturition. But as to its *modus operandi*, we have also to consider its sedative action in subduing crescent inflammation, and its probable quality in neutralizing specific virus, and arresting zymotic increase.

The observance of rest and antiphlogistic regimen would, in all probability, aid the therapeutic influence of this mode of treatment; its beneficial effect is, however, developed under an ordinary mode of life, when attended with no flagrant violation of conduct.

As a method of cure, it is in my opinion open but to one objection—namely, its limited adoption, owing to its applicability extending no further than the early stages of the disease, and these often exciting but little attention. Let it not, however, be disregarded on this account; for, undeniably, many cases of clap present themselves while within the power of the remedy; and for these let it be reserved and had recourse to as a means easy of application and effectual in operation; while those cases beyond its influence may, as heretofore, be set aside, to be dealt with after another more expedient mode.

Failing, however, in ectrosis, the case is in a position no more unfavourable than if its cure had not been attempted; the ulterior effects and complications of the disease are likely to be, in no degree, more imminent or grave. This is borne out by asking, what are the complications to be apprehended in severe cases of gonorrhœa? Phymosis and paraphymosis; excoriation of the glans, producing balanitis inflammation of the lymphatics; abscess in the penis—rare, sometimes, however, occurring in the vicinity of the lacuna maxima; perineal abscess, with probable retention of urine, formation of urinous abscess, or inflammation of the prostate, leading to the same results: or cystitis, orchitis, or—in protracted cases, what is of frequent occurrence—stricture. The first five of these are, comparatively speaking, of minor importance, and need not be taken into account, considering the improbability of the treatment detailed producing them: the latter-mentioned more serious matters, so far from being excited, are certainly frustrated by nitrate of silver; they being, for the most part, true examples of extension of inflammation by continuity, the arrest of the process while localised in the extremity of the urethra, (and which is always the case so long as the remedy is applicable,) if effected, must prevent such ulterior calamities as perineal abscess, prostatitis, or cystitis. Again, stricture,

when it supervenes, does so only in protracted cases of clap, and where such a grade of the inflammatory process is maintained as favours plastic exudation and organization. Prevention of the continuance of the gonorrhœa must therefore obviously tend to diminish the probability of the stricture's supervention.

Ectrosis being available only prior to the suppurative crisis, a gonorrhœa which has advanced thus far must be regarded as beyond its influence; and should the disease persist and progress after one, or at most two injections, any further persistence in the use of the remedy must be deemed unadvisable, and the case consigned to the ordinary tedious treatment.

## REMARKS ON THE STATISTICS OF AMPUTATION.

By PAUL F. EVE, M.D., Professor of Surgery in the Medical College of Georgia.

In the 3d vol. of the first Series of this Journal, published in 1839, will be found the following remarks on the mortality after amputation, which I sent home while in Paris during that year:—"M. Velpeau, in preparing the second edition of his *Medicine Operatoire*, wrote to Dr. Mott, requesting him to give some idea of the success of American surgeons. This Dr. Mott soon furnished, but M. Velpeau, I learn from his chief interne, M. Perischaud, does not give credit to it. He says this is contradicted by the statistics of Dr. Norris, one of the surgeons of the Pennsylvania Hospital. I recollect being impressed with the great error which Dr. Norris's statement was calculated to produce, by those who take it as the basis of success of amputations in the United States. It no more conveys a correct history of American surgery on this, than it does on any other subject. No surgeon of our country will consent to its being a correct foundation of statistics in surgical practice. All it can pretend to, and all that Dr. Norris undoubtedly intended by it, was the practice of the Pennsylvania Hospital, and nothing more. I respect the surgeons of this charitable institution, but I am sure they will acknowledge that they erred, and that greatly, though on the side of mercy, in *delaying amputations during the period referred to by Dr. Norris*. Who, in reading these statistics, will admit them as correct as applied to the United States? And being the only ones yet published in our country, it is not astonishing that a man of M. Velpeau's industry and penetration should have noticed the contradiction to it in Dr. Mott's letter to him."

Soon after my return from Europe, I noticed in the Medical Examiner, of Philadelphia, then edited by Drs. Biddle, Clymer and Gerhard, some comments on the above quotation, which was re-published in their Journal. They commence by saying, "We regret we differ in many respects from the writer," but admit that patients in the Pennsylvania Hospital are liable to erysipelas and purulent absorption, and also to the unfavorable circumstances of "*the late period at which surgeons perform some of the amputations*." Again, in the same Journal, May, 1840, they observe, "many of us were under the impression that these operations were extremely insignificant, so far as the mortality was concerned. One of the editors of the Examiner labored under this impression, and stated his convictions to some of his surgical friends in Paris; after his return to America, he found that the amputations at the Pennsylvania Hospital were often fatal; that is, during a portion of the period alluded to by Dr. Norris, as that of the greatest mortality after amputation, 1834-6."

As I have made no attack upon the correctness of the report of Dr. Norris, but simply stated my belief that it ought not to be taken as a just statistical basis for calculating success of amputations in the United States, no reply was



deemed necessary to the comments made upon my letter. Indeed, after the explanations given by the editors of the *Examiner* and quoted above, it is difficult to determine wherein we differ on this subject; and I have now merely referred to the matter, because by a recent report of Dr. Betton, of Germantown, published in one of the last Nos. of this Journal (the *Medical Examiner*), and by my own statistics of amputation, the position I have assumed is abundantly strengthened.

No one will pretend to deny that the mortality after amputation is far greater than it was supposed to be, previous to recent statistical investigations, or that it is not true, even of our own country; but what I maintain is that Dr. Norris's report of this operation as it occurred in the Pennsylvania Hospital from Jan. 1830 to Jan. 1838, is not a correct basis of the success of American surgeons. This report, it will be recollected, was published in 1838, in the August No. of the *American Journal of the Medical Sciences*; it was of course to it, and to it alone, that my letter written from Paris in 1839 alluded, and to it also M. Velpeau had reference, when he said it contradicted the assertions made to him by Dr. Mott. During these seven years (from 1830 to 1838), of 56 amputations performed in Pennsylvania, 21 died—or nearly one half of those operated upon. Who, I ask, is ready to admit that this is our mortality after this operation? Who will attempt to prove this to be a correct estimate of deaths after amputation in the United States?

Fortunately for me, Dr. Norris, two years subsequently, published another statistical account of these operations as performed in the same institution (Pennsylvania Hospital), during 1838 and 1839. In this second report, we learn that of 24 amputations, *only one died*. What a remarkable discrepancy, and how opposite to the first statement! By one table we are made to lose one in about every two that we amputate, and by the last only one in twenty-four. Was I not then justified in saying the impression produced by the first report was erroneous? Was I not right in supporting the assertion of Dr. Mott, that in America our amputations are generally successful? Would M. Velpeau, had he seen this second report of Dr. Norris, have stated to his hospital surgeon, I cannot credit Dr. Mott on this subject, though he is sustained "by Drs. Gibson, Warren, Paul Eve, and some physicians of Philadelphia."

Dr. Mott stated to M. Velpeau, "Our amputations at New York are rarely followed by death; I cannot recal to mind, at present, but four cases of amputation which have thus terminated."

Dr. Gibson also wrote to the same author, "the greater number of amputations that I have performed for diseases of the articulations, wounds from fire-arms, and complicated fractures, have been followed by complete success."

In Dr. Reese's last edition of Samuel Cooper's *Surgical Dictionary*, he states the fact that of 18 amputations performed in private practice by Dr. J. C. Warren, of Boston, he lost but one. Dr. R. also adds, that several surgeons of this country, many of them in extensive practice, have never lost a patient after amputation.

Dr. Thomas F. Betton, of Germantown, has just published his cases of amputation, amounting to 16, with the loss of only 1.

Dr. Norris himself admits the error of too great delay in performing the operation in the Pennsylvania Hospital: and by the statistical report of Dr. George Hayward, of the Massachusetts General Hospital, at the same period, we find the mortality was less than in the first-named institution. While these reports show the proportion of deaths up to 1840, to be after amputations about 1 in 4, yet in private practice it must be considerably less.

Life will always be endangered in an operation like that of amputation, but full and correct statistics, could they be arrived at, would no doubt exhibit the success of the opera-

tion in the United States, as good, if not better, than in any other country. By a glance at the following tables, a comparison may be made.

The 1st, represents the mortality after amputation in general.

The 2nd, that of the inferior extremity.

And the 3d, statistics of my own operations.

There is nothing peculiar in my mode of performing amputation. The triple circular operation is preferred for the thigh and arm, the single flap for the leg, and the double flap for the fore-arm. Animal ligatures (made of deer's tendons) are used, and adhesive plaster, oiled compress, or the compress wetted with cold water, and the roller bandage. Much importance is placed upon the proper application of the latter means, as a preventive to both hemorrhage and inflammation. With a bandage to a stump, secondary bleeding is never apprehended. Opiates, when pain continues, are administered.

No selection has been made in my cases.

TABLE I.—STATISTICS OF AMPUTATION IN GENERAL.

When Occurring or by whom Reported.	No. of Cases.	Deaths.
Faure, after the battle of Fontenoy, . . .	300	260 to 270
Edinburgh Royal Infirmary, . . .	69	19
Dr. Guyon, French African Army, 1837, . .	63	17
At siege of Constantine, Africa, 1837, . .	10	9
At Bildah, Africa, . . .	62	39
Guthrie, Toulouse and New Orleans, . . .	150	42
Dr. Norris, Pennsylvania Hospital, 1838, .	56	21
Do. do. do. 1840, . . .	24	1
Dr. Hayward, Massachusetts General Hospital, 1840, . . .	70	15
Mr. Benjamin Phillips, in all countries, .	640	150
Do. do. in Great Britain, . . .	308	76
Do. do. private cases in London, . . .	107	28
Guthrie, on the field of battle, . . .	291	24
Do. secondary in hospitals, . . .	551	265
Glasgow Infirmary, Dr. Lawrie, . . .	276	101
Northern Hospital, Liverpool, . . .	96	18
Gendrin, Paris, . . .	79	33
University College Hospital, London, . .	66	10
Emery, after battle of Navarino, . . .	68	14
Dupuytren, . . .	59	15
Do. by Meniere at Hotel Dieu, . . .	24	17
Scotch Hospitals out of Edinburgh, 1844, .	60	14
Larrey and Roux, . . .	38	15
Roux in 1814, . . .	22	8
Dubois, . . .	28	3
Dr. J. C. Warren, Boston, (private,) . .	18	1
Do. do. hospital, . . .	40	10
Dr. N. R. Smith, Baltimore, . . .	50	5
Dr. Betton, Germantown, . . .	16	1
Malgaigne, Paris, 5 years, ending 1841, .	6852	332
Paul F. Eve, Augusta, . . .	51	nonc.

TABLE II.—STATISTICS OF AMPUTATIONS OF THE INFERIOR EXTREMITY.

Where Occurring or by whom Reported.	No. of Cases.		Deaths.	
	Thigh.	Leg.	Thigh.	Leg.
Markham, reporter—Dupuytren		26		21
Alex. King, reporter—Guthrie, Toulouse, . . .	78*		27*	
Alcock, Spain and Portugal, . . .	42		14*	
John Phillips Potter, 1841, . . .	22	26	4	4
Dr. F. N. Machardy, 1841, London, . . .	202	56	55	11
Dr. Bullen, . . .	19	32	6	3
Dr. Lawrie, Glasgow, . . .	36	27	19	9
Dr. A. Trowbridge, State of New York, . . .	85		11	

Where Occurring or by whom Reported.	No. of Cases.		Deaths.	
	Thigh.	Leg.	Thigh.	Leg.
Dr. Lawrie, by Thos. Inman,	128	62	46	30
Thomas Inman, France,	107*		69*	
Dr. Norris, Pennsylvania Hos-				
pital, . . . . . 1838,	13	16	6	9
Do. do. do. 1840,	15*		1*	
Dr. Hayward, Mass. Gen. Hos-				
pital, 1840, . . . . .	34	23	9	5
Edinburgh, 1844, . . . . .	18	20	13	2
Velpeau, 1842, . . . . .	6	4	4	2
In Paris, during 5 years, 1841,	201	192	126	106
Dupuytren, by Meniere, at Ho-				
tel Dieu, . . . . .	11	3	9	3
Dr. Betton, Germantown, 1846.	4	6	1	non-
Paul F. Eve, Augusta, . . . .	7	7	none.	none.

TABLE III.—STATISTICS OF AMPUTATION OF THE INFERIOR EXTREMITY OCCURRING IN THE PRACTICE OF THE WRITER.

## THE LEG.

Nr.	Name.	Age.	Sex.	Cause of the Operation.	Result.
1	Soldier	40	Male.	Carries from ball through ankle joint.	Speedy recovery
2 & 3	Len	14	Male.	Gangrene from frost-bite.	Both legs at same time—rode out on the eighth day.
4	Moses	30	Male.	Aneurism from injury.	Speedy recovery
5	Simon	35	Male.	Carries from injury.	Well in three weeks.
6	Daniel	27	Male.	Necrosis of Tibia from a burn.	Healed slowly, but entirely.
7*	Ned	22	Male.	Hypertrophy, &c.	Healed in about three weeks.

## THE THIGH.

1	Sokey	35	Female.	Scrofulous ulceration of leg.	Well in 5 weeks, & lived for 3 yrs.
2	Turknett's boy	15	Male.	Gangrene of leg from injury.	Well in a month.
3	Jonakin's man	35	Male.	Gangrene from injury.	Well in four or five weeks.
4	Bill	10	Male.	Necrosis of Tibia	Well in 3 weeks.
5	C. B.	21	Male.	Gangrene from injury to knee joint.	Well in 3 weeks.
1	William	28	Male.	Do. do. do.	Well in 4 weeks. Healed in three weeks, but disease subsequently attacked the glandular system, and destroyed the patient, the stump remaining sound for two months.
7	Lewis	21	Male.	Malignant ulceration from an old cicatrix of a burn.	

Total, 14 cases of successful amputation of the inferior extremities.

a Probably only those who died immediately after the operation.

b This includes all kinds of amputations, and the same remark applies to my own.

The figures thus marked \* in Table II. indicate simply the inferior extremity, without the distinction into thigh and leg.

\* This was partial of the foot, including the metatarsal of the great toe.

*Southern Medical and Surgical Journal.*

## ON A LUMINOUS APPEARANCE OF THE HUMAN EYE, AND ITS APPLICATION TO THE DETECTION OF DISEASE OF THE RETINA.

By WM. CUMMING, Esq., late Surgeon to the London Hospital.

The author mentions the well-known luminous appearance of the eyes of cats, dogs, and other animals, the reflection from the eyes of albinos, &c.; and after quoting from the works of Müller, Beer, and Tyrrell, as to other cases in which reflections have been observed from the posterior part of the human eye, proceeds to say, that the object of the present paper is to show that the healthy human eye is equally, or nearly equally, as luminous as the eye of the cat, &c., when observed under favourable circumstances; and the application of the alteration or loss of this luminous apparatus to the detection of changes in the retina, and posterior part of the eye.

The author states, that the reflection may be seen in the following manner: Let the person whose eye is to be examined be placed at the distance of ten or twelve feet from a gas or other bright light: the rays of light must fall directly on his face, and all rays falling laterally on the head must be intercepted by screens placed half way between the light and the eye examined. If the reflection be bright it will be at once seen from any spot between the light and the screen.

The author having more particularly described the mode in which the observations brought forward in this paper were made, remarks—The luminous appearance varies from a dingy red to a bright silver or golden tint, in some cases of extreme lustre, equalling that of a well-lighted coal. It is more brilliant when seen at several feet distant. It was always seen when the eye was healthy and the pupil easily dilated. The reflection was seen in cases in which the lens had been removed by the operation of solution. Twenty cases were examined indiscriminately, vision being perfect in all, the age varying from a few months to sixty years. In sixteen cases the reflection was bright and very evident, in four faint, and seen with more difficulty, and in one it was not seen.

As to the cause of this reflection, it is attempted to be shown that the retina, although a perfectly transparent medium in the living eye, is still a reflecting body. The formation of images upon the retina, the reflection from the cornea and lens, and other transparent bodies, are cited as proofs of this. Other circumstances would increase the brilliancy of retinal reflection—viz., the concave shape of the retina itself, the position of the lens, the influence of the vascular anterior layer of the retina filled with red globules of blood.

The author remarks, that the establishment of the fact of a similar reflection from the healthy human eye to that from the eyes of other animals, appears important in two ways. First, as a physiological fact, it shows that too much influence has been ascribed to the tapetum, that of the retina being entirely overlooked. Secondly, in a pathological view, the existence of this appearance in the healthy eye having been recognized, its non-existence, or alteration, may enable us to detect changes in the condition of the retina and posterior part of the eye heretofore unknown, or satisfactorily to see those which we only suspected.—*Dublin Medical Press.*

## CHEMISTRY.

Gargle to counteract certain effects of Secondary Syphilis.—Formula of M. Ricord. (*Journ. de Chem. Med.* Jan., 1846, p. 56.)—

Decoction of Hemlock, . . . 3½ ounces.

Corrosive sublimate, . . . from ½ to 1½ grains.

—*Southern Journal of Medicine and Pharmacy, September.*

Tincture of Protiodide of Iron.—The tincture of protiodide of iron is made as follows—

Sulphate of iron, . . . 12 grains.

Iodide of potassium, . . . 23 "

Alcohol at 85°, . . . ½ oz.

Triturate the two salts in the dry state together, add the alcohol and filter. Keep the solution in bottles, completely filled. A little excess of iodide of potassium gives more stability to the preparation.—*Ibid.*

THE

**British American Journal.**

MONTREAL, OCTOBER 1, 1846.

**THE ADJOURNED CONVENTION OF MEDICAL DELEGATES.**

The attempt to organise, by the Medical Societies of the Province, a Provincial Medical Association, through a meeting of their delegates in this city, last year, will, doubtless, be fresh in the memory of our readers, as well as the means by which that attempt was frustrated. After having, in a most peculiar and summary way, dispensed with the co-operation of the delegates of the societies which had summoned that meeting, the others, representatives of district meetings of the profession, resolved themselves into a convention, different from that which was originally contemplated, and, having transacted certain business, "adjourned *sine die*." Further proceedings of this convention will be found below :—

An adjourned convention of the medical delegates of the districts of Quebec, Three Rivers, and Montreal, was summoned for, and held on Saturday, the 5th instant, at Quebec, by order of the President.

The object of the convention was to take into consideration the last year's proceedings, and to prepare a report to be submitted hereafter to their constituents.

The meeting was held at the Hotel Dieu, and the delegates present were, Dr. Morrin, Dr. Painchaud, Dr. Fremont, and Dr. Sewell, Quebec; Dr. Kimber, Chambly; Dr. Valois, Pte. Claire; Dr. Arnoldi, Jun., Montreal.

The chair was taken at ten o'clock, a.m., and the secretary, after reading a letter from Dr. Nelson, explaining the cause of his absence, read the minutes of the last year's proceedings, and pointed out the failure of the proposed Medical Bill during the last session of Parliament. He then proposed as a substitute for the Medical Bill that the convention should submit for the consideration of their constituents a project for incorporating the medical profession of Canada East into a College of Physicians and Surgeons, and a project to that effect was accordingly read, and after its minute discussion, clause by clause, it was moved by Dr. Sewell, and seconded by Dr. Fremont, That the project as proposed be adopted by this convention.—Carried.

2. Moved by Dr. Painchaud, seconded by Dr. Valois, That the proceedings of this day's convention be submitted to a general meeting of the members of the medical profession of Canada East, and that the said meeting be summoned by the secretary, to be held at Three Rivers, on Wednesday, the 14th day of October next.—Carried.

3. Moved by Dr. Kimber, seconded by Dr. Arnoldi, Jr., That a sufficient number of copies of the proposed project be printed and circulated, with the least possible delay, among the practitioners of Canada East.—Carried.

The president then having left the chair, Dr. Painchaud was named in his stead, and a vote of thanks was carried for the able and impartial conduct displayed by Dr. Morrin, and his great urbanity during the whole proceedings of the day.

A vote of thanks was also passed for the report which had been submitted to the convention by the Secretary, and the able manner in which he had discharged all the duties of his office.

JOSEPH MORRIN, *President*.

Frs. C. T. ARNOLDI, *Secretary*.

Montreal, Sept. 7, 1846.

**PROPOSAL FOR A COLLEGE OF PHYSICIANS AND SURGEONS FOR CANADA EAST.**

It will be seen by a reference to the minutes of the meeting of the Medical Delegates, held on the 5th inst. at Quebec, published above, that a project has been entertained for incorporating the Medical Profession of Canada East into a College of Physicians and Surgeons, and that a measure, having that object in view, was accordingly read, and having undergone a "*minute discussion, clause by clause*," was finally adopted by the convention. The project thus calmly discussed, comes before the Profession for its approval, deliberately sanctioned by those members of the convention present at the meeting. It may be, therefore, assumed to be an exposition of the views of that Convention in this matter, as the expression of their deliberate judgment, to be finally ratified by a general meeting of the Profession, which has been summoned for that purpose at Three Rivers, on the 14th of this month.

Waiving, on the present occasion, all consideration of the question, whether delegates specially appointed for a meeting on the 25th of August, 1845, in the city of Montreal, have the right of constituting themselves a permanent representative body by adjournments of their meetings, in this instance, over an interval of thirteen months, we pass at once to a consideration of the project, which, under their auspices, has within these last ten days, been submitted to the Profession for consideration; and we claim the right of uttering our sentiments on this subject, as well from the circumstance of our being members of the Profession, running every risk of being disfranchised by the scheme, as conductors of the only Journal existent in this Province, which can be supposed to claim the privilege of advocating directly the interests of the Profession in general. Let it not be supposed that we are writing against the principle of the measure; far from it. We see in the establishment of such an institution, endowed with powers to direct and regulate the interests of the Profession, much to be desired. We will advocate any and every scheme, which will tend to ameliorate the Profession: but to benefit that Profession generally, it should be tainted by no party views: to meet with general support it must be broad, liberal and comprehensive; should present nothing of an exclusive character in it; should proscribe none, and should not derogate from honors possessed by any. In all these respects, essentials to a favourable consideration of such a measure, this scheme is most lamentably wanting. With all due deference to the gentlemen who have proposed the project as conveyed in the circular, we consider the scheme an insult to the graduates of British

Universities, and to the Fellows, Members and Licentiatees of the British Colleges of Surgeons practising in this Province. We are not surprised at the proposal. We consider the present exposition of the views of the delegates in perfect keeping with their tactics at the Convention last year in this city; determined that French Canadian interests should then prevail, the same spirit manifests itself again in their more late proceeding. Composed, as the Profession is in this part of the Province, mainly of French Canadian members, the power would become lodged in the majority, for it is by no means likely that the British graduates would submit to the degradation of an examination for membership, and having thus obtained power to legislate in all matters affecting the Profession, and among the rest "education," it would not be long before the medical schools, which do, or may hereafter exist, would obtain every wish that they have been coveting in a more quiet and easy way, than by a direct appeal to the Legislature.

Every corporation must have a beginning, and it is a matter of little consequence, who or what they are, who are in the outset to constitute that corporation; but the restriction, in the first place, to those whose licenses are of 20 years date, is the first drawing of a line of distinction which is carried out even more invidiously afterwards. We ask, and with reason, why is this line of demarcation drawn? What is there in those, whose licenses are of more recent date, which should deprive them of this privilege, if it be one, and unfit them for a share in the governance of such an institution, and a voice in the formation of its bye-laws. We will here take the opportunity of contrasting this illiberal procedure, with the present proceedings of the Profession of Canada West, on the same subject, and we give insertion to the 3rd clause of a Bill which it is their intention to propose to the Legislature at its next session for its sanction, and which we have lately received.

3. "It is desirable that the following licensed practitioners \_\_\_\_\_ be incorporated as the College of Physicians and Surgeons of Upper Canada, and that all Practitioners already duly licensed according to the existing laws of this Province, who may be willing and desirous of joining, shall likewise be members of the said college." But the reasons of this restriction will presently appear.

The scheme further declares, that the college shall consist of fellows and members; that the fellows shall constitute the governing body of the college, or the corporation, and that in the first place this corporation shall consist only of those who have been licensed for 20 years, and have become parties to the petition to the Legislature, based on the proposed scheme. The scheme further propounds the mode by which the num-

ber of the fellows, or the corporation, shall be increased; and this is to be done by *election*. Of all the objectionable features in the scheme, we consider this one to be the most so, as every one will admit, who reflects upon it. It is a sure and certain mode of enabling the few to tyrannize over the many; it is a certain method of ensuring for the governing body of the college, a set of persons, whose opinions on medical matters shall not be inimical to those of the electors; and a certain and irresponsible method of tacitly excluding all of an opposite description whose presence might be troublesome. We hesitate not to affirm, that the distinguishing feature of the corporation, as at present proposed, (if carried out), will be *French Canadian*, to whose opinions on medical matters, the transactions of the last two or three years bear ample testimony, and the treatment which the British party has received *once* at their hands, affords strong grounds for believing, that, when opportunity offers, it will be repeated, not by any overt act, as took place last year, but by the silent and equally certain excluding power inherent in the ballot box. Who is there among the Profession, whose sense of justice and liberality is not lost, who will calmly sanction such a scheme? Who is there that does not see in the proposal to which we have adverted, a system by which the interests of the Profession will be controlled by a few parties, to whose caprice the Profession generally must submit.

But the honour of the fellowship is to be restricted. No one is to presume to aspire to it, unless he is a Provincial licentiate of seven years; such a one is required to petition the corporation, and to submit to and pass an examination. A Provincial licentiate, of fifteen years standing, however, is *eligible for election without examination*. Here again is the second invidious line of distinction drawn, and we can divine no reason for it, except in the first case, the contemplated self exclusion of a very large number of licentiatees, the most of whom are graduates, and who, we are certain, would not submit to the degradation of an examination before those, who, although older, may yet not be wiser than themselves, and who, perchance, may have never entered the walls of a university, or heard a lecture delivered. This might be deemed a negative way of getting rid of persons whose presence might not be acceptable: while there is, as we have already remarked, a positive way of managing the second class, by a convenient recourse to the ballot box. But the enormity of the proposed scheme, will be rendered abundantly apparent, by an exemplification of its mode of operation. A gentleman, an M. D. of the University of London, and a Fellow of the Royal College of Physicians, Lon-

don, has decided upon making this city the future scene of his Professional career; and having undergone the formality of obtaining his Provincial License, has comfortably located himself in this city. This gentleman has to wait for seven years before he is entitled to a fellowship, and even then to obtain it, has to submit to an examination, before persons, not one in ten of whom could, in all probability, have undergone the scrutinizing examination which characterizes the boards whose honours he has already obtained. But this is a favourable case; suppose that he has been a graduate of a British University, and a fellow of a Royal College of Physicians or Surgeons, for twenty five years, that he has practised his Profession in Great Britain for this period of time, and finally concludes upon spending the remainder of his days in this country in the exercise of professional duty: this person is disqualified from the fellowship, until after having been a Provincial licentiate for seven years, and even then, to obtain it, has to submit to the degradation of an examination before men, the most of whom are his juniors in years and professional standing.

But, if the second clause of the "statement," which has thus furnished material for criticism, be found to be imbued with a spirit of the grossest injustice to a large body of practitioners in the Province, not less so is the sixth clause. It is therein proposed that "any person presenting a degree legally obtained from any university, or a diploma from any college or faculty of physicians or Surgeons in Her Majesty's dominions; and any person possessed of a license to practice in either section of the Province of Canada, provided he shall satisfy the corporation that he has obtained the said degree, diploma, or license, in conformity with the curriculum hereafter prescribed, shall be eligible for membership without further examination;" or conversely, if to obtain his degree, diploma or license, he has not followed in his studies the curriculum, enjoined in the 9th clause, he *must undergo an examination*. We now observe that there is not in the British dominions, a university or a college, which prescribes to candidates for its honours or diplomas, a curriculum similar to that contained in the ninth clause, the consequence of which is, that every graduate and surgeon must submit to examination, before being deemed worthy of membership, or license to practice in this country, although the possession of the degree or the diploma is accepted in Great Britain, as evidence, on the part of the holder, of competency to practice in the departments, of which they respectively make mention. This caps the climax—it is the finishing off—the masterstroke of the whole scheme.

Having thus, it may be roughly, removed the veil, the

plan becomes developed in all its deformity. It is simply and plainly this, an attempt to erect into a college of Physicians and Surgeons, *the Licentiates of the Medical Boards of the Province*, and to give them a precedency over the graduates and surgeons of the British Universities and colleges.

We must, however, observe that there are some good points in the proposed measure; but the amount of good, compared with the evil results which would flow from it, is so infinitesimally small, that it will behoove the Profession to adopt some other method by which its affairs may be managed, in such a manner that the greatest good may be derived, with the least possible injury to any particular interests. We trust that at the meeting summoned for the 14th, a sufficiency of good sense will be found to stamp disapprobation on the scheme which has been proposed to the Profession, and which we have thus at some length critically examined.

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*Quackery in Montreal.*—Our duty, as conductors of a Medical Journal, calls upon us to notice a specimen of charlatanism which has been perpetrated lately in this city; and we do it for the purpose as well of exposing it, as to protect the community from a glaring imposition. It may be perfectly true, that persons of the description we are hinting at, if left alone and unnoticed, speedily sink into that oblivion, from which their presumption may have temporarily elevated them; and although this is a natural result of that want of sustaining skill, which is attempted to be compensated for by unblushing effrontery, it must not be forgotten, that the community, upon which they are practising, is, in the meanwhile, suffering in their best interests. We would wish to observe that we are not writing unadvisedly on the subject; for, while there is ample evidence in the advertisement, which has been figuring for the last month in several of the city papers, to condemn Dr. F. A. Cadwell (if a Doctor at all, a most unworthy one) as a charlatan, we yet hesitated in stigmatising him as such, without some more solid foundation on which to base our observations. We subjoin the advertisement:—

"OPERATIONS ON THE EYE AND EAR.

DOCTOR F. A. CADWELL,

OCULIST AND AURIST,

*Principal Operator at the American Eye and Ear Institute of New York,*

Begs leave to inform the Citizens of Montreal and vicinity, that he will pass a few weeks in the city, during which time he will devote his attention to such cases of Disease of the EYE and EAR as may be offered for treatment.

It is to be hoped that all persons having any derangement of either Sight or Hearing, will immediately avail themselves of the present opportunity of obtaining the desired relief. Such have been the wonderful improvements in this branch of the Profession of late, that no one should de-

spair of obtaining more or less relief even in the worst forms of disease.

I therefore invite all persons indiscriminately, who may be in the least afflicted with either of the above named diseases, to seek an early interview, in behalf of their Sight or Hearing, and satisfy their minds in regard to the prospects of obtaining ultimate relief; and any reasonable service such as an Examination or an Opinion, will at all times be cheerfully tendered, unaccompanied by expense to the applicant. Persons desirous of being waited upon at their own residence will be obliged by sending their address to the Subscriber; and those requiring Surgical Operations, are recommended to make as early application as possible, time in such cases being of the utmost consequence. Dr. Cadwell may be consulted Professionally through the day at his Office, No. 99, Craig Street, corner of St George, in the house occupied by Mr. Thornton, where may be seen letters and references from gentlemen of the highest respectability, both of this city and of the United States.

N.B.—Strabismus or Squinting, cured in less than one minute, by a very slight and easy operation.

Also,—Artificial Eyes inserted, made to move and rotate with the sound and healthy Eye, of which it will be an exact resemblance.

August 13."

Those who have now read Dr. F. A. Cadwell's titles will take it for granted, that there is such an institution as the "American Eye and Ear Institute of New York," and that Dr. F. A. Cadwell was the "principal operator" at the same. The employment of titles of this description, *when actually possessed*, is perfectly legitimate, and not to be found fault with. While they are in reality testimonials of merit, on the part of the possessors of them, they are also, as far as the public is concerned, passports to their favourable consideration. They naturally engender confidence, because it is presumable that the fortunate possessors must have secured the honourable confidence of those who granted them, of whose esteem they are undoubted tokens. We have now to apprise the public, and we do this on authority, that there is no such institution as the "American Eye and Ear Institute of New York," and that Dr. F. A. Cadwell could consequently not have been "principal operator" at it. The man who can, to serve his own mercenary ends, conveniently manufacture a title; who can forge, and therefore prostitute, the honourable distinctions of that profession, the integrity of which he is solemnly sworn to uphold and preserve (providing that he is "a graduate in medicine"), to subserve his own selfish views, of whatever nature they may be, has placed himself beyond its pale, and merits an exposure commensurate with the impudent cheat which he has practised.

We have it in our power to say more of Dr. F. A. Cadwell, but we forbear; we desire to let him, as well as all others of his class, know, that this community shall not be allowed to suffer at such hands if we can prevent it. Putting aside all notice of the style in which the advertisement is drawn up, a style which breathes the very essence of charlatanism, and in which no re-

spectable practitioner would indulge, we are content simply to disrobe him of his borrowed plumage, and to allow his pretensions to public confidence to be estimated by the impudent imposition which he has practised, and which we have thus exposed. In doing this we think we have done enough. We warn the public, in the first place, because the organs on which the "operations" and "advice" are proposed are too important to be trifled with; and we warn Dr. F. A. Cadwell, in the second place, of the legal consequences to which he is subjecting himself, and to make the best use of his time in changing his "local habitation," which, together with a recommendation to pursue his professional career in a more legitimate and honourable manner, is the most friendly advice which we could give him, and the following of which he will have no cause to repent.

*The following ought to have been inserted immediately after our remarks on the College of Physicians and Surgeons, C. E., but was, by mistake, omitted:—*

#### IT IS PROPOSED

That a petition be presented to the Legislature, at its ensuing session, signed by all the members of the Medical Profession, resident in Canada East, whose Provincial Licenses bear date at least twenty years, and who may feel disposed to become parties to it; based upon the inadequacy of the existing laws to regulate the Practice of Medicine, Surgery, and Midwifery, in this section of the Province; to establish a certain and fixed course of study previously to obtaining license to practice these branches; and to regulate druggists and others vending or distributing medicines by retail. It shall pray for the repeal of all the existing acts or portions of acts referring to these subjects; and it shall further pray for an Act of Incorporation, by which the persons, whose names are appended to the said petition, shall be embodied and incorporated into a College, to be styled 'The College of Physicians and Surgeons of Canada East,' and that the said persons constitute the original Corporation of the said College.

That the Corporation of the said College be instituted with all the usual powers and privileges granted to other corporate bodies, in regard to holding landed and other property, making by-laws, having a common seal, &c. &c.

That power be granted to the Corporation to legislate in all matters affecting the Medical Profession, whether in reference to education, practice, the protection of its members from inroads of unlicensed practitioners, the regulation of the practice of midwifery, the supervision of druggists' establishments, and the protection of the public health, in regard to Medical Police and Hygiene.

*The Views of the Petitioners and the manner of carrying them out are contained in the following statement:—*

The College shall consist of Fellows and Members—only the former to constitute the Governing body of the College.

The Corporation shall, at stated times, elect into their body such and so many of the members of the College as shall conform to their by-laws; those holding licenses of not less than fifteen years being eligible for election, with-

out examination; those holding licenses of not less than seven years, yet under fifteen, being required to petition the Corporation, with a view to be admitted into that body; and they will be required to submit to and pass an examination, to be prescribed in the by-laws.

There shall be two half yearly meetings of the Corporation, viz: on the second Tuesday of May and October, in the cities of Quebec and Montreal, alternately, to receive reports of the proceedings of the College for the half year expired; to arrange for the ensuing; to examine Candidates applying for license to practise, and consequently for membership, and to attend to the general business of the College.

At the May meeting, only the Corporation shall elect its own officers; receive application of members for fellowship, and modify or alter by-laws as circumstances may require.

The officers to be annually elected at the May meeting, shall consist of one President, (to be chosen alternately from among the Fellows resident in the cities of Quebec and Montreal,) and for each city, a Vice-President, a Secretary, and a Treasurer.

Any person presenting a degree legally obtained from any University, or a Diploma from any College or Faculty of Physicians or Surgeons in Her Majesty's dominions; and any person possessed of a license to practice in either section of the Province of Canada, provided he shall satisfy the Corporation that he has obtained the said degree, diploma, or license, in conformity with the curriculum hereafter prescribed, shall be eligible for membership without further examination.

The Entrance Fee of every Fellow shall be——; that of every Member shall be——, independently of the license fee, which shall be——, and an annual subscription of——; or a commuted sum of——, to be paid to the Treasurers, for the establishment and maintenance of Libraries,—free access to, and the advantages derivable from which, will be common to all members.

Every person purposing to commence the study of Medicine or Pharmacy, shall be required to register his name, age, place of birth, and the name of the Practitioner or Druggist with whom he purposes to study, in a book to be kept by the Secretary of the College, in the District in which he resides; he will also be required to undergo an examination, as to his general and classical acquirements. From and after the year 1850, he must also prove himself to be generally conversant with the English and French languages.

The period of study to be accomplished by every Student of Medicine, before he can become a Candidate for license, shall not be less than four uninterrupted years, under a duly qualified practitioner, or practitioners; and during that time he shall be required to have attended the following lectures and hospital practice, namely:—two courses of Anatomy and Physiology, Chemistry and Pharmacy, Theory and Practice of Medicine, Principles and Practice of Surgery, Materia Medica, Institutes of Medicine, and Midwifery and Diseases of Women and Children; each course consisting of at least one hundred lectures of one hour's duration, (an examination, per week, of the same length of time considered equivalent to a lecture,) delivered in an University, College or Incorporated School of Medicine; also, two courses of Practical Anatomy, each of six month's duration: also, one course of Chemical Medicine and Chemical Surgery, each of six month's duration; Medical Jurisprudence and Botany, if obtainable; also the Medical and Surgical Practice of a Hospital, containing at least fifty beds, and attended by at least two Medical Officers, during a period of one year, or two periods of six months each.

\* We presume this is a misprint. It ought to be read, *Clinical* or *Chemical*.

The period of apprenticeship for a Druggist's Clerk, shall be not less than four uninterrupted years, during which time, he shall be required to have attended at least two courses of lectures on Chemistry and Pharmacy; two on Materia Medica, and one on Botany, if obtainable, as above.

Females may practice as Midwives, in this section of the Province; but after the expiration of one year from the passing of this Act, no woman shall be permitted to practise for gain or profit, who shall not have obtained a license from this College, either by examination, or based upon a certificate granted to her by two Fellows or Members of this Corporation, practising in the district in which she resides.

Any person practising Medicine, Surgery or Midwifery, without being duly licensed so to do, and any person vending or compounding drugs to be distributed, by him, without license in this section of the Province, shall be subject to prosecution by and at the instance of the College, under certain stipulations.

Committees shall be annually appointed for the Districts of Montreal, Three Rivers and Quebec, to act in the capacity of Health Officers.

There shall be a Committee appointed annually, for each District, whose duty it shall be twice in every year, or at any other time, when from information, they have good grounds for so doing, to visit and inspect the quality of all or any portion of the stock, and the weights and measures, used in any shop purporting to be either entirely or partially devoted to the sale of Drugs.

*Dictionary of Dental Science.*—We have received from Dr. Harris, of Baltimore, a printed circular, propounding several inquiries, for the purpose of eliciting information on various subjects connected with Dentistry, to be embodied in a Dictionary of Dental Science, which he is preparing for the press. The collecting of materials for a work of the kind is a laborious duty; and as the originator's intention is to render it as complete as possible in its various parts, without which its utility as a work of reference and study would be nullified, we have decided on making the subject as extensively known as possible in this colony, by publishing in this Journal the inquiries themselves, that the profession may be generally cognizant of them, and perchance assist in furnishing the information sought for. A work of the kind is evidently much required, and we anxiously anticipate its *debut*:—

*First.* Have you knowledge of any deceased Dentist or Dentists, whose contributions to Dental literature, superior skill, or remarkable character, entitle him or them to biographical notice in such a work as the one proposed? If so, the undersigned would be glad to have names and such items of history as your judgment may select. If your information concerning them will enable you to do so, state when and where they were born; the character of their early pursuits, extent of their education, with whom they studied and served their professional apprenticeship; when they commenced practice; their skill in the several branches of the Dental Art, the improvements they made either in theory or practice, or in Dental instruments; their contributions to the literature of Dental Science, the place or places where they practised; their standing in society, and when and where they died, with the disease which caused their deaths.

*Second.* Have you invented any Dental instrument or appliance of any kind which upon full trial you consider valuable to the profession? If so, please describe it.



*Third.* Have you improved any instrument previously known? If so, please transmit a description of it.

*Fourth.* Have you performed any remarkable or extraordinary operation upon the mouth? If so, describe it, pointing out any particulars which entitle you to the award of originality in conception, or superior dexterity in operating. Do not confine your answer to operations on the teeth, but include the whole buccal cavity.

*Fifth.* Do you know of any such operation performed by any other than yourself, not yet reported?

*Sixth.* Have you met with any remarkable cases of disease or deformity of the organs in question? If so, describe them, with mode of treatment adopted, and any other information with regard to them.

*Seventh.* Have you remarked serious results from the use of unscientific preparations, awkward operations? &c. &c.

*Eighth.* Have you made observations which you think valuable upon the causes of Dental disease, and their prevention? If so, please transmit them in such form as you may think proper.

*Ninth.* What are the names and addresses of the best dentists in your vicinity?

It would be very desirable, if you could do so conveniently, to accompany any description, which you may have the kindness to furnish, of any newly invented instrument or appliance, or of any improvement on any previously in use, with an accurate drawing.

By answering the above queries or any of them, you will confer a favor upon the undersigned, and may render valuable service to science.

Very respectfully, &c. &c.

CHAPIN A. HARRIS.

*Apothecaries' Shops.*—Since the issue of our last number the Medical Hall has been opened in Great St. James Street, and in the splendid manner in which it is fitted up, may challenge comparison with any shop in this Province—we were going to say on this continent. Montreal has become noted for the splendour of its shops; but we think the Apothecaries' shops bear off the palm. If the Medical Hall has a rival, it is to be found in the shop of S. J. Lyman & Co. (lately Mr. MacDonald's). We think this shop unequalled for chasteness of design, and the strictness with which it has been carried out. It is not so large as the Medical Hall, nor are its fittings so gorgeous. Mr. Savage's, and the Old Medical Hall in Notre Dame Street, are also beautiful shops, although probably less attractive, which is due rather to their situations, than to any want or deficiency in intention. We hope that, however emulous in beauty their shops may be, the worthy proprietors will always maintain, as they have hitherto done, the high character they have severally borne for the genuineness of their medicines—a matter of vital interest to the profession at large.

*Notice to Subscribers.*—We take the opportunity of reminding our subscribers of the terms of subscription to the Journal. A very large sum is due the Journal, causing a very considerable inconvenience to the publisher. We hope our friends will pay attention to this hint. The amounts due by each are mere trifles, but the gross amount forms a considerable sum, the deprivation of which becomes a serious matter.

# TO CORRESPONDENTS.

Mr. Justice McCord's valuable paper "On the Statistics of Crime in the District of Montreal" will appear in the November number.

The letter of "S. W." on the Proposal of the Delegates at the late Medical Convention is under consideration. We must have the author's name, however. He will find the matter discussed in this number; and, if necessary, we may corroborate our position by the arguments of our friend.

We acknowledge receipt of two letters from Dr. Grasset. The last accompanying the rough draft of a Bill to create a College of Physicians in Upper Canada. When the details of the measure are finally agreed to, we shall be happy to insert it. Will Dr. Grasset inform us of this when it takes place.

## BOOKS &c. RECEIVED.

Seventh Annual Announcement, Baltimore College of Dental Surgery, 1846.

Dublin Medical Press, August 5, 12, 19, 26, September 2d.

Provincial Medical and Surgical Journal, August 5, 26.

Boston Medical and Surgical Journal, Nos. 4, 5, 6, 7.

Summary of the Transactions of the College of Physicians of Philadelphia, August, 1846.

The American Journal of Science and Arts, September.

The Medical News and Library, Philadelphia, September.

The Medical Examiner, September.

Southern Medical and Surgical Journal, September.

The Western Globe, September 4, London, C. W.

Wiley and Putnam's News Letter, September.

A Review of Homœopathy, Allopathy, and Young Physic, by L. M. Lawson, M. D., Professor of General and Pathological Anatomy and Physiology in Transylvania University, Lexington, Ky., 1846.

The Northern Journal of Medicine, March, April, and May, 1846, Edinburgh.

The American Journal of Insanity, July.

The Southern Journal of Medicine and Pharmacy, September.

The New York Medical and Surgical Reporter, 24.

Dublin Quarterly Journal of Medical Science,—New Series, vol. 1.

The Western Lancet, September.

The New York Journal of Medicine and the Collateral Sciences, September.

The New Orleans Medical and Surgical Journal, September.

Annual Circular of the Massachusetts Medical College, with a History of the Medical Department of Harvard University, &c., Boston, 1846.

Report of G. S. DeRotterdam, Esq., Chemical Assistant to the Geological Survey of the Province, Montreal, 1846.

Buffalo Medical Journal, September.

## REPORT OF THE MONTREAL GENERAL HOSPITAL FOR JULY AND AUGUST, 1846.

Dr. HALL, } Attending Physicians.  
Dr. BRUNEAU, }

Remained, . . .	120	Discharged cured, . . .	349
Admitted, . . .	373	Irregular, . . .	1
		Died, . . .	16
Total treated, . . .	493	Remaining, . . .	127
		Total, . . .	493
IN-DOOR PATIENTS.		OUT-DOOR PATIENTS.	
Belonging to Montreal, . . .	159	Belonging to Montreal, . . .	244
Immigrants, . . .	192	Immigrants, . . .	57
Seamen, . . .	22	Seamen, . . .	2
Total, . . .	373	Total, . . .	303
Males, . . .	203	Males, . . .	157
Females, . . .	170	Females, . . .	146
Total, . . .	373	Total, . . .	303

DISEASES AND ACCIDENTS.	
Abcessus, . . . . .	2
Ambustio, . . . . .	2
Amenorrhœa, . . . . .	9
Amputatio, . . . . .	1
Ascites, . . . . .	2
Bronchitis, . . . . .	10
Bubo, . . . . .	3
Carica, . . . . .	2
Cataract, . . . . .	2
Catarrhus Chronicus, . . . . .	1
Cholera (sporadic), . . . . .	5
Choroiditis, . . . . .	1
Concussio, . . . . .	1
Conjunctivitis, . . . . .	4
Constipatio, . . . . .	2
Contusio, . . . . .	9
Cynanche, . . . . .	1
Cystitis, . . . . .	1
Delirium Tremens, . . . . .	4
Diabetes Mellitus, . . . . .	1
Diarrhœa, . . . . .	16
Dyspepsia, . . . . .	2
Dysenteria, . . . . .	2
Eczema, . . . . .	2
Erisipelas, . . . . .	4
Febris Com. Cont., . . . . .	173
" Typhus, . . . . .	7
" Intermittens, . . . . .	1
Fractura, . . . . .	1
Furunculus, . . . . .	1
Gastrodynia, . . . . .	1
Gonorrhœa, . . . . .	1
Hematemesia, . . . . .	1
Hemorrhoids, . . . . .	2
Hemiplegia, . . . . .	2
Hepatitis, . . . . .	1
Icterus, . . . . .	2
Impetigo Scabida, . . . . .	1
Leucorrhœa, . . . . .	1
Morbus Brightii, . . . . .	1
" Cordis, . . . . .	2
" Coxæ, . . . . .	4
Neuralgia, . . . . .	1
Oedema, . . . . .	3
Ophthalmia, . . . . .	2
Orchitis, . . . . .	2
Papillary Syphilide, . . . . .	1
Paralysis, . . . . .	1
Paraplegia, . . . . .	1
Paronychia, . . . . .	1
Periostitis, . . . . .	1
Phagadena, . . . . .	1
Phthisis, . . . . .	3
" Laryngea, . . . . .	1
Pleurodynâ, . . . . .	2
Pneumonia, . . . . .	2
Porrigo, . . . . .	1
" Furfurans, . . . . .	1
Psora, . . . . .	4
Psoriasis, . . . . .	1
Relaxation of Uterus, . . . . .	1
Rheumatismus, . . . . .	15
Rubeola, . . . . .	2
Rupia, . . . . .	1
Scirrhus, . . . . .	1
Scrofula, . . . . .	1
Stomatitis, . . . . .	1
Synovitis, . . . . .	1
Syphilis, . . . . .	12
Stricture, . . . . .	1
Tumor, . . . . .	1
Ulcus, . . . . .	14
Vulnus, . . . . .	2
Total, . . . . .	373

ALEXANDER LONG, M.D., House Surgeon.

### MONTHLY RETURN OF SICK IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC, FROM THE 1st TO THE 31st JULY, 1846, INCLUSIVE.

JOS. PAINCHAUD, Esq., M.D., Physician.  
JAMES DOUGLAS, Esq., Surgeon.

Remained, . . . . .	158
Since admitted, . . . . .	220
Total treated, . . . . .	378
Of these discharged, . . . . .	268
Died, . . . . .	9
Remaining, . . . . .	101
	378

DISEASES AND INJURIES.	
Febris, . . . . .	45
Scarlatina, . . . . .	1
Rubeola, . . . . .	9
Variola, . . . . .	5
Pneumonia, . . . . .	4
Phthisis, . . . . .	1
Bronchitis, . . . . .	3
Catarrhus, . . . . .	4
Rheumatismus, . . . . .	12
Hepatitis, . . . . .	1
Dysenteria, . . . . .	3
Diarrhœa, . . . . .	29
Enteritis, . . . . .	2
Cholera Sporadica, . . . . .	9
Dyspepsia, . . . . .	3
Hydrops, . . . . .	2
Paralysis, . . . . .	1
Stricture Urethræ, . . . . .	1
Hernia, . . . . .	2
Fractura, . . . . .	17
Abscessus, . . . . .	2
Ulcus, . . . . .	3
Vulnus, . . . . .	4
Contusio, . . . . .	5
Injury of Spine, . . . . .	1
Subluxatio, . . . . .	4
Gelatio, . . . . .	2
Paronychia, . . . . .	4
Necrosis, . . . . .	1
Carcinoma, . . . . .	2
Erysipelas, . . . . .	3
Phlegmon, . . . . .	3
Cataract, . . . . .	1
Polypus, . . . . .	1

Epilepsia, . . . . .	1	Parturicio, . . . . .	1
Mania, . . . . .	1	Morbi Alieni, . . . . .	1
Delirium Tremens, . . . . .	1		
Orchitis, . . . . .	3	Total, . . . . .	5
Syphilis, . . . . .	11		

JOHN SMITH, Acting House Surgeon.

### FIRST SEMI-ANNUAL REPORT OF THE TORONTO GENERAL DISPENSARY, FROM 1st JANUARY TO THE 30th JUNE, 1846.

Dr. HAMILTON, }  
Dr. RANKIN, } Medical Officers.  
Dr. HODDER, }  
Dr. GRASSETT, }

Admitted, . . . . .	40
Discharged cured, . . . . .	306
Do. relieved, . . . . .	66
Do. for non-attendance, . . . . .	34
Died, . . . . .	10
Remaining, . . . . .	33
Total, . . . . .	445

## DISEASES AND INJURIES.

Abcessus, . . . . .	2	Hemiplegia, . . . . .	1
Ambustio, . . . . .	4	Hepatitis C., . . . . .	1
Amaurosis, . . . . .	1	Hysteria, . . . . .	1
Anasarca, . . . . .	2	Hæmorrhagia Uteri, . . . . .	1
Amenorrhœa, . . . . .	7	Influenza, . . . . .	1
Apoplexia, . . . . .	1	Lumbrici, . . . . .	1
Aptha, . . . . .	1	Leucorrhœa, . . . . .	1
Arthritis, . . . . .	3	Laryngitis, . . . . .	1
Abortio, . . . . .	3	Morbus Cordis, . . . . .	1
Bronchitis Acut., . . . . .	6	Meningitis, . . . . .	1
Do. Chron., . . . . .	4	Morbus, . . . . .	1
Conjunctivitis, . . . . .	1	Mammæ Inflamm., . . . . .	1
Contusio, . . . . .	6	Menorrhagia, . . . . .	1
Cardialgia, . . . . .	1	Necrosis, . . . . .	1
Colica Biliosa, . . . . .	3	Oedema, . . . . .	1
Catarrhus, . . . . .	49	Odontalgia, . . . . .	1
Do. Pulmon., . . . . .	2	Otitis, . . . . .	1
Cephalalgia, . . . . .	1	Ophthalmia, . . . . .	1
Cynanche Parot., . . . . .	1	Obstipatio, . . . . .	1
Colica Infant., . . . . .	2	Obstructio Oesophagi, . . . . .	1
Dysenteria, . . . . .	4	Parturicio, . . . . .	1
Dysœcœa, . . . . .	2	Paralysis, . . . . .	1
Debilitas, . . . . .	4	Psora Abscessus, . . . . .	1
Do. Senect., . . . . .	3	Pneumonia, . . . . .	1
Dyspepsia, . . . . .	23	Porrigo, . . . . .	1
Diarrhœa, . . . . .	16	Pleuritis, . . . . .	1
Dentitio, . . . . .	6	Phthisis, . . . . .	1
Excoriatio, . . . . .	1	Prolapsus Uteri, . . . . .	1
Epilepsia, . . . . .	1	Pyrosis, . . . . .	1
Enteritis Chron., . . . . .	1	Phlegmon, . . . . .	1
Erythema, . . . . .	1	Prurigo Scroti, . . . . .	1
Entropium, . . . . .	1	Pleurodynâ, . . . . .	1
Febris Intermitt., . . . . .	30	Rubeola, . . . . .	1
Do. Gastricus, . . . . .	1	Rheumatismus, . . . . .	1
Do. Infantum, . . . . .	6	Rubeolæ Sequela, . . . . .	1
Do. Com. Cont., . . . . .	7	Syphilis, . . . . .	1
Fractura, . . . . .	1	Scirrhus, . . . . .	1
Gastro Enteritis, . . . . .	2	Surditas, . . . . .	1
Gelatio, . . . . .	2	Scrofula, . . . . .	1
Gonorrhœa, . . . . .	3	Tabs Mesenterica, . . . . .	1
Gastrodynia, . . . . .	1	Tussis Asthmaticæ, . . . . .	1
Hemorrhoids, . . . . .	1	Tinea, . . . . .	1
Herpes Circinatus, . . . . .	4	Ulcus, . . . . .	1
Hæmoptysis, . . . . .	1	Vermeæ, . . . . .	1
Hernia, . . . . .	2	Vulnus, . . . . .	1
Hydrops Saccatus, . . . . .	1	Veneficium, . . . . .	1

Several children admitted in the last stage of disease included in the column "Died."

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending August 31, 1846.**

DISEASES	Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS.....	Measles, .....	3	2	5	1	1	1	1	1	1	1	1	1	1
	Scarlatina, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Small Pox, .....	1	2	3	1	1	1	1	1	1	1	1	1	1
	Hooping Cough, .....	1	2	3	2	1	1	1	1	1	1	1	1	1
	Fever, .....	17	14	31	7	6	4	2	2	4	1	1	3	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Hydrocephalus, .....	1	0	1	1	1	1	1	1	1	1	1	1	1
	Paralysis, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Convulsions, .....	2	3	5	4	1	1	1	1	1	1	1	1	1
	Dentition, .....	13	7	20	6	14	1	1	1	1	1	1	1	1
DISEASES OF RESPIRATORY ORGANS, ..	Consumption, .....	35	30	65	24	10	1	3	8	5	4	7	4	4
	Croup, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
DISEASES OF ABDOMINAL VISCERA, ..	Diarrhoea, .....	13	7	20	6	14	1	1	1	1	1	1	1	1
	Dropsy, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Cholera (Sporadic) .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Jaundice, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Still-born, .....	6	1	7	7	1	1	1	1	1	1	1	1	1
	Inflammation, .....	8	4	12	5	2	1	1	1	1	2	1	1	1
	Suicide, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Drowned, .....	3	1	4	1	1	1	2	1	1	2	1	1	1
	Unknown, .....	6	1	7	2	1	1	1	1	1	2	1	1	1
	Sudden Death, .....	1	2	3	1	1	1	1	1	1	1	1	1	1
	Debility, .....	2	2	4	1	1	1	1	1	1	1	1	1	1
	Accidental, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Abscess Lumbar, .....	1	1	2	1	1	1	1	1	1	1	1	1	1
	Total, .....	119	82	202	68	50	7	4	9	15	11	12	6	4

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR AUGUST 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	1 P. M.
1.	+63	+85	+68	+74.	30.00	30.01	30.03	30.01	N. W.	N. W.	N. W.	Fair	Fair	Fair
2.	" 65	" 86	" 74	" 75.5	30.10	30.10	30.11	30.10	N. W.	N. W.	N. W.	Fair	Fair	Fair
3.	" 68	" 90	" 73	" 79.	30.18	30.11	30.02	30.10	N. W.	N. W.	N. W.	Fair	Fair	Fair
4.	" 74	" 93	" 76	" 83.5	29.96	29.83	29.85	29.88	W.	W.	W.	Fair	Fair	Fair
5.	" 76	" 94	" 78	" 85.	29.86	29.83	29.86	29.85	W.	W.	W.	Fair	Fair	Fair
6.	" 73	" 87	" 71	" 84.	29.93	29.95	30.06	29.98	W. by N.	W. by N.	W. by N.	Fair	Fair	Fair
7.	" 68	" 89	" 75	" 78.5	30.14	30.01	30.07	30.07	NW by W	S. W.	S. W.	Fair	Fair	Fair
8.	" 74	" 84	" 73	" 79.	30.07	29.95	29.95	29.99	S. W.	S. W.	S. W.	Fair	Fair	Fair
9.	" 70	" 86	" 74	" 78.	29.94	29.88	29.83	29.88	S. W.	S. W.	S. W.	Fair	Fair	Foggy
10.	" 74	" 81	" 61	" 77.5	29.82	29.87	29.95	29.88	N. W.	NW by W	NW by W	Foggy	Fair	Fair
11.	" 58	" 80	" 63	" 69.	30.05	30.07	29.97	30.03	N. N. W.	W. N. W.	N. by W.	Fair	Fair	Fair
12.	" 62	" 93	" 75	" 77.5	29.94	29.83	29.97	29.83	W.	W.	W.	Fair	Fair	Fair
13.	" 68	" 95	" 73	" 81.5	29.76	29.82	29.94	29.84	W.	W.	W.	Rain	Fair	Fair
14.	" 69	" 93	" 75	" 81.	29.88	29.84	29.84	29.85	W.	W.	W.	Fair	Fair	Fair
15.	" 78	" 92	" 71	" 85.	29.99	29.78	29.72	29.83	W.	W.	W.	Fair	Fair	Fair
16.	" 74	" 88	" 73	" 81.	29.65	29.68	29.73	29.69	W.	W.	W. by N.	Fair	Th&rn	Rain
17.	" 73	" 81	" 57	" 77.	29.70	29.72	29.93	29.78	W. by N.	W.	W.	Fair	Fair	Fair
18.	" 55	" 81	" 58	" 68.	30.02	30.07	30.13	30.07	N. W.	N. W.	N. W.	Fair	Fair	Fair
19.	" 54	" 80	" 60	" 67.	30.26	30.29	30.15	30.23	N. W.	N. W.	NW by W	Fair	Fair	Fair
20.	" 63	" 72	" 64	" 67.5	30.13	30.02	29.98	30.04	W. N. W.	S. W.	S. W.	Fair	Fair	Cloudy
21.	" 68	" 85	" 68	" 76.5	29.94	29.92	29.93	29.93	S. W.	S. W.	S. W.	Fair	Fair	Fair
22.	" 70	" 86	" 67	" 78.	29.88	29.83	29.83	29.85	N. W.	N. W.	W.	Fair	Fair	Fair
23.	" 64	" 79	" 60	" 71.5	29.84	29.81	30.00	29.88	W. by N.	W.	N. W.	Rain	Fair	Fair
24.	" 55	" 82	" 62	" 68.5	30.15	30.18	30.16	30.16	N. W.	W. by S.	W. by S.	Fair	Fair	Fair
25.	" 54	" 89	" 63	" 71.5	30.19	30.17	30.15	30.17	W. S. W.	W. S. W.	W. S. W.	Fair	Fair	Fair
26.	" 65	" 88	" 68	" 76.5	30.16	30.05	30.05	30.09	S. W.	S. W.	S. W.	Fair	Fair	Fair
27.	" 67	" 90	" 73	" 78.5	30.09	30.07	30.15	30.10	S. W.	S. W.	S. W.	Fair	Fair	Fair
28.	" 66	" 89	" 72	" 77.5	30.20	30.14	30.08	30.14	S W by S.	S. S. W.	S. S. W.	Fair	Fair	Rain
29.	" 73	" 91	" 76	" 82.	30.07	29.48	29.93	29.99	W. by N.	W. by N.	W. by N.	Rain	Fair	Fair
30.	" 67	" 83	" 74	" 75.	29.92	29.88	29.89	29.90	W.	W.	W.	Rain	Fair	Fair
31.	" 63	" 90	" 75	" 76.5	29.95	29.88	29.88	29.90	W.	W.	W.	Fair	Fair	Fair

THERM. { Max. Temp., +95° on the 13th.  
 { Min. " +54° " 19th.  
 Mean of the Month, +69°.

BAROMETER, { Maximum, 30.29 Inches on the 19th.  
 { Minimum, 29.65 " " 16th.  
 Mean of Month, 29.68 Inches.

**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—AUGUST, 1896.**  
*Latitude 43°. 39.4. N. Longitude 79°. 21.5. W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.			Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.		
1	29.682	29.670	29.709	29.7050	67.4°	77.4°	66.0°	68.32	.442	.512	.403	.451	.68	.56	.65	.68	N. by W.	S. E.	Calm.	—	Mostly clear. A few detached clouds.
2	29.785	29.748	—	—	78.4	78.4	—	—	.546	.512	.403	.451	.67	.54	—	.68	E. by N.	S. E.	Calm.	—	Mostly clear. A few detached clouds.
3	29.803	29.739	29.734	29.7563	66.0	81.8	63.2	70.57	.547	.552	.429	.510	.88	.52	.76	.70	N.E. by N.	S.S.W.	Calm.	—	Mostly clear. A few detached clouds.
4	29.733	29.628	29.629	29.6497	70.8	85.0	72.8	75.71	.526	.712	.659	.649	.72	.61	.84	.76	S.S.W.	S.S.W.	Calm.	—	Uncoloured, but hazy all day.
5	29.647	29.547	29.586	29.5924	74.0	86.2	80.4	78.67	.647	.751	.642	.660	.80	.61	.64	.69	Calm.	S.S.W.	Calm.	—	Hazy, and occasionally cld. Air close.
6	29.657	29.667	29.723	29.6950	68.4	84.0	64.6	73.36	.697	.625	.447	.531	.74	.60	.75	.66	Calm.	S. by W.	Calm.	—	Mostly clear. Light clouds passing.
7	29.793	29.750	29.736	29.7420	69.4	81.4	66.6	73.10	.504	.631	.541	.573	.72	.60	.85	.72	Calm.	E. by S.	Calm.	—	Overcast. Light clds and haze all day.
8	29.683	29.616	29.585	29.5986	68.4	74.0	68.2	68.97	.527	.620	.635	.594	.87	.76	.95	.87	Calm.	E. by S.	Calm.	—	Raining fr. 9 to 11 am. Thunder, lightning, & rain from 5 pm to midnight.
9	29.539	29.503	—	—	71.6	71.0	—	—	.652	.673	.336	.441	.87	.91	—	.87	Calm.	E.	Calm.	0.205	Densely overcast. Slight rain am.
10	29.533	29.546	29.612	29.5888	67.7	78.6	62.2	67.56	.572	.550	.336	.441	.87	.58	.62	.66	N. by W.	N.W. by N.	Calm.	0.055	Mostly cloudy. Clear intervals.
11	29.714	29.664	29.609	29.6506	61.2	73.7	59.4	64.27	.316	.506	.456	.442	.60	.63	.92	.76	Calm.	S. E.	Calm.	—	Mostly clear. A few detached clouds pm.
12	29.619	29.503	29.481	29.5165	63.0	81.4	70.8	72.67	.505	.622	.526	.572	.90	.60	.72	.74	Calm.	S. by W.	Calm.	—	A few pass. clds. Aur. fr. 11 N. 10 & 11 pm.
13	29.503	29.477	29.505	29.4933	72.0	77.0	69.8	73.45	.662	.697	.481	.595	.87	.77	.69	.73	Calm.	S. by E.	Calm.	—	Th. 1 pm & 2 pm. Gen. cloudy.
14	29.534	29.486	29.479	29.4893	66.8	78.3	64.0	69.90	.478	.606	.486	.530	.84	.64	.84	.75	Calm.	S.	Calm.	0.320	Cld. Aur. fr. 1 to 3 am, & 9 pm to midn't
15	29.464	29.367	29.339	29.3867	66.8	82.6	72.0	72.08	.529	.632	.658	.591	.83	.58	.86	.77	Calm.	S.	Calm.	—	Uncld till 6 pm. A few detached clds till midn't. Lightning 8 to 11 pm.
16	29.335	29.238	—	—	68.3	67.2	—	—	.633	.618	.370	.405	.84	.94	—	.84	S.W.	Calm.	Calm.	0.300	Thun. lightning & rain most of day.
17	29.419	29.436	29.583	29.5357	64.2	72.8	59.4	63.67	.498	.402	.370	.405	.85	.52	.74	.71	N. by W.	N. by W.	Calm.	0.250	Thun. lightning & rain most of day.
18	29.743	29.757	29.777	29.7706	53.3	65.6	53.5	57.44	.305	.435	.353	.368	.76	.71	.87	.80	Calm.	S.E. by S.	Calm.	—	Part. cloudy am. Uncld from 6 pm.
19	29.811	29.763	29.715	29.7375	62.0	66.4	61.8	63.62	.398	.425	.494	.448	.74	.67	.92	.79	E. S. E.	E.	Calm.	—	Mostly clear. Occas. passing clouds.
20	29.603	29.583	29.603	29.5969	62.3	68.0	62.6	63.82	.522	.558	.536	.544	.96	.84	.96	.94	Calm.	Calm.	Calm.	0.250	Overcast all day.
21	29.576	29.585	29.565	29.5810	62.9	74.4	67.2	68.04	.538	.645	.595	.585	.96	.79	.92	.88	Calm.	Calm.	Calm.	0.140	Den. cld. Ring fr 6h 30m to 11h 15m am
22	29.570	29.521	29.511	29.5785	65.4	71.7	62.9	65.37	.532	.631	.522	.515	.87	.82	.94	.83	Calm.	S. E. by S.	Calm.	—	Mostly clear. Misty am. A little rain 7 pm
23	29.543	29.555	—	—	71.7	71.7	—	—	.521	.392	.—	.—	.69	.42	—	.—	Calm.	N.	Calm.	—	Densely cld. Very slight rain 9 am.
24	29.800	29.799	29.785	29.7960	60.6	69.5	54.5	60.79	.292	.458	.372	.388	.57	.65	.89	.75	Calm.	S. E. by E.	Calm.	—	Mostly clear. Passing clouds.
25	29.787	29.745	29.737	29.7452	61.6	73.7	63.8	65.72	.430	.552	.518	.503	.81	.68	.90	.82	N.N.E.	S. E.	Calm.	—	Clear. Fine. Aur. light 9 pm to midn't
26	29.723	29.670	29.685	29.6892	65.4	74.2	61.3	66.25	.563	.462	.447	.458	.93	.56	.84	.78	Calm.	E. S. E.	Calm.	—	Mostly cld. Fine. Aur. fr 9 to 11 pm.
27	29.727	29.731	29.746	29.7423	65.8	74.2	63.4	68.10	.550	.595	.455	.542	.89	.73	.80	.81	Calm.	S. E.	Calm.	—	Clear to 8 am. Rem. part. cloudy.
28	29.776	29.713	29.697	29.7260	64.8	76.0	65.4	68.16	.538	.693	.565	.555	.90	.79	.93	.88	Calm.	E. S. E.	Calm.	0.090	Part. cloudy. Halo round sun at noon.
29	29.695	29.622	29.606	29.6306	66.2	78.0	62.7	67.22	.582	.534	.559	.559	.93	.91	.96	.91	Calm.	N.W.	Calm.	—	Thun. light, & rain am. Aur. 10 to 11 pm
30	29.619	29.582	—	—	71.5	78.6	—	—	.602	.682	.534	.559	.93	.91	.96	.91	Calm.	S. S.W.	Calm.	0.160	Misty cld. Thunderstorm noon to 3 pm
31	29.641	29.577	29.596	29.6018	66.8	81.4	69.6	71.87	.570	.676	.593	.627	.89	.65	.85	.83	N. by W.	S. S.W.	Calm.	—	Gen. clear. A few clouds round hor.
Mean	29.6641	29.6239	29.6282	29.6382	65.51	75.93	64.93	68.41	.503	.582	.502	.528	.81	.67	.84	.78	S.W.	S.W. by S.	Calm.	1.770	Part. clear. A few clouds round hor.

Barometer		Temperature of the Air		Tension of Vapour		Humidity of the Air		Wind		Rain		WEATHER	
7 A.M.	3 P.M.	7 A.M.	3 P.M.	7 A.M.	3 P.M.	7 A.M.	3 P.M.	7 A.M.	3 P.M.	7 A.M.	3 P.M.	7 A.M.	3 P.M.
29.682	29.670	67.4°	77.4°	.442	.512	.68	.56	N. by W.	S. E.	—	—	Mostly clear.	A few detached clouds.
29.785	29.748	78.4	78.4	.546	.512	.67	.54	E. by N.	S. E.	—	—	Mostly clear.	A few detached clouds.
29.803	29.739	66.0	81.8	.547	.552	.88	.52	N.E. by N.	S.S.W.	—	—	Uncoloured,	but hazy all day.
29.733	29.628	70.8	85.0	.526	.712	.72	.61	S.S.W.	S.S.W.	—	—	Hazy,	and occasionally cld. Air close.
29.647	29.547	74.0	86.2	.647	.751	.80	.61	Calm.	S.S.W.	—	—	Mostly clear.	Light clouds passing.
29.657	29.667	68.4	84.0	.697	.625	.74	.60	Calm.	S. by W.	—	—	Overcast.	Light clds and haze all day.
29.793	29.750	69.4	81.4	.504	.631	.72	.60	Calm.	E. by S.	—	—	Raining fr.	9 to 11 am. Thunder, lightning,
29.683	29.616	68.4	74.0	.527	.620	.87	.76	Calm.	E.	—	—	& rain from	5 pm to midn't.
29.539	29.503	71.6	71.0	.652	.673	.87	.91	Calm.	E. by S.	0.205	Densely overcast.	Slight rain am.	
29.533	29.546	67.7	78.6	.572	.550	.336	.441	N. by W.	N.W. by N.	0.055	Mostly cloudy.	Clear intervals.	
29.714	29.664	61.2	73.7	.316	.506	.456	.442	Calm.	S. E.	—	Mostly clear.	A few detached clouds pm.	
29.619	29.503	63.0	81.4	.505	.622	.526	.572	Calm.	S. by W.	—	A few pass. clds.	Aur. fr. 11 N. 10 & 11 pm.	
29.503	29.477	72.0	77.0	.662	.697	.481	.595	Calm.	S. by E.	—	Th. 1 pm & 2 pm.	Gen. cloudy.	
29.534	29.486	66.8	78.3	.478	.606	.486	.530	Calm.	S.	0.320	Cld. Aur. fr. 1 to 3 am,	& 9 pm to midn't	
29.464	29.367	66.8	82.6	.529	.632	.658	.591	Calm.	S.	—	Uncld till 6 pm.	A few detached clds till midn't.	
29.335	29.238	68.3	67.2	.633	.618	.370	.405	S.W.	Calm.	0.300	Thun. lightning & rain	most of day.	
29.419	29.436	64.2	72.8	.498	.402	.370	.405	N. by W.	N. by W.	0.250	Thun. lightning & rain	most of day.	
29.743	29.757	53.3	65.6	.305	.435	.353	.368	Calm.	S.E. by S.	—	Part. cloudy am.	Uncld from 6 pm.	
29.811	29.763	62.0	66.4	.398	.425	.494	.448	E. S. E.	E.	0.250	Overcast all day.		
29.603	29.583	62.3	68.0	.522	.558	.536	.544	Calm.	Calm.	0.140	Den. cld. Ring fr 6h 30m	to 11h 15m am	
29.576	29.585	62.9	74.4	.538	.645	.595	.585	Calm.	Calm.	—	Mostly clear.	Misty am. A little rain 7 pm	
29.570	29.521	65.4	71.7	.532	.631	.522	.515	Calm.	S. E. by S.	—	Densely cld.	Very slight rain 9 am.	
29.543	29.555	71.7	71.7	.521	.392	.—	.—	Calm.	N.	—	Mostly clear.	Passing clouds.	
29.800	29.799	60.6	69.5	.292	.458	.372	.388	Calm.	S. E. by E.	—	Clear.	Fine. Aur. light 9 pm	to midn't
29.787	29.745	61.6	73.7	.430	.552	.518	.503	N.N.E.	S. E.	—	Mostly cld.	Fine. Aur. fr 9 to 11 pm.	
29.723	29.670	65.4	74.2	.563	.462	.447	.458	Calm.	E. S. E.	—	Clear to 8 am.	Rem. part. cloudy.	
29.727	29.731	65.8	74.2	.550	.595	.455	.542	Calm.	S. E.	0.090	Part. cloudy.	Halo round sun at noon.	
29.776	29.713	64.8	76.0	.538	.693	.565	.555	Calm.	E. S. E.	—	Thun. light,	& rain am. Aur. 10 to 11 pm	
29.695	29.622	66.2	78.0	.582	.534	.559	.559	Calm.	N.W.	0.160	Misty cld.	Thunderstorm noon to 3 pm	
29.619	29.582	71.5	78.6	.602	.682	.89	.65	N. by W.	S. S.W.	—	Gen. clear.	A few clouds round hor.	
29.641	29.577	66.8	81.4	.570	.676	.593	.627	S.W.	S.W. by S.	1.770	Part. clear.	A few clouds round hor.	

Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to its presence.

Under the head of Humidity of the Air, is given the proportion the Aqueous Vapour bears to the quantity the air is capable of sustaining at the existing temperature, saturation being represented by 100.

The Instruments are Standard Instruments. The Rain Gauge is 27 feet above the soil.—The Means entered are the Means by 24 hourly Observations, from 6 a.m. to 6 a.m.

The quantity of Rain or Snow received during each 24 hours, is noted at 9 a.m.

The Observations entered in the column for 7 a.m., on Sundays, are actually taken at 9 a.m. The two Observations taken on Sundays are not included in any of the means.

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[No. 7.

**CONTRIBUTIONS TO CLINICAL MEDICINE.**

BY J. CRAWFORD, M. D.

Lecturer on Clinical Medicine and Surgery, McGill College,  
and Physician to the Montreal General Hospital.

*Case of Ascites—Ovarian Disease—Suppuration of Tumor  
—105 Quarts of Purulent Fluid drawn off during the  
year.*

Mrs. White, a venerable and highly respectable old woman, 79 years of age at the time of her death, became my patient in 1838, in consequence of being affected with ascites. She had, generally speaking, enjoyed good health previously, and, notwithstanding the dropsical affection, looked well, and was very active for her time of life. From 1838 till the end of 1840, she was treated by a variety of diuretic, hydrogogue, and tonic medicines, and was three times tapped, on each of which occasions there generally had been 18 or 20 quarts of the ordinary serous fluid drawn off, and after each tapping she made a surprising recovery, being able always to leave her bed and move about her room on the day following the operation; and on one occasion, a few days after being tapped, *she joined in a dance with three generations of her children!*

In the winter of 1840 she fell, and hurt her abdomen, while it was much distended; after this accident she suffered a good deal of pain and uneasiness in the epigastrium; but did not apply for relief till she again required tapping. In January, 1841, she was tapped for the fourth time, when, after the abdominal fluid was removed, a large tumor was discovered, principally occupying the epigastric region, being the size of the head of a full grown fœtus: it was very moveable, and appeared attached by a pedicle, about the thickness of the arm of a fœtus. Subsequently this tumor was found to vary its position, but it appeared to be principally connected with the right iliac region, and was diagnosed to be an ovarian tumor. It did not appear, however, that she had ever suffered from any uterine disease. The tumor generally gave her inconvenience and some degree of pain, but not such as might lead to the apprehension of a malignant growth, nor did her countenance afford any indication that such was the nature of the tumor.

In the beginning of July, 1845, she was tapped for

the 19th time, there being an interval between this and the preceding operation of ten months. For some time previously, she had been complaining more than she usually had done. About 15 quarts of the ordinary hydropic serum were drawn off, which did not entirely reduce the bulk of the abdomen, some obstacle, which could not be removed, preventing the full discharge. She did not make her usual good recovery, and filled rapidly. She complained a good deal of a pain in her right iliac region, of a heavy dragging character, as if the tumor were more closely fixed to that neighbourhood; and she could not bear much examination of that part. The pain did not in any way appear to have originated in the operation of paracentesis, as there was no pain in the linea alba, where the puncture had on all occasions been made. Her health began to suffer, and her strength to fail, and great apprehensions were entertained that she would sink if again tapped: she, however, at this time became so anxious to be relieved, that she was again tapped on the 4th August 1845, when 16 quarts of extremely offensive, puriform, brownish or bloody looking fluid, were drawn off, which gave her instant relief. The canula was darkened by the fluid, which, together with the smell, demonstrated that sulphuretted hydrogen was present. The entire abdominal tumor disappeared, and no enlargement could be detected in any part. She bore the operation well, and also the subsequent examination and pressure. She now stated that about a week before the operation, she thought that she perceived a sensation as if something had burst in her abdomen, in the right iliac region. The microscope detected abundant pus and blood globules in the fluid which had been drawn off. She made a very speedy recovery, but again rapidly filled, and was obliged to be tapped on the 1st September; when 14 quarts of well formed purulent fluid were drawn off, which smelled strongly of sulphuretted hydrogen, and exhibited under the microscope abundance of pus globules, but no blood. This operation, as well as the preceding one, was performed while she was lying in bed: she bore it well, and got up next day. On the 6th October, 7 quarts of similar puriform fluid were drawn off, together with some small shreds of coagulable lymph, but the whole

collection was not discharged, in consequence of the canula becoming several times plugged up. She had been complaining for some days before this time of a painful dragging sensation in the right side of her abdomen, and did not make a good recovery, had one or two slight faintish feelings on the day after the operation, and also some abdominal tenderness, which, however, yielded to the application of a bran poultice; she took soup with a relish, but was averse to wine; she was, however, able to go about her room as usual in a few days. On the 10th November she was again tapped, and 13 quarts evacuated of similar purulent fluid; after which she made a fair recovery. She was tapped in the beginning of February, 1846, and only seven quarts of a similar fluid were drawn off—the canula becoming obstructed. On the 28th February 8 quarts were evacuated, but the abdomen was only very partially emptied on either occasion; her recoveries were not good; she suffered a good deal of pain in the abdomen, and she did not regain strength, and was seldom able to move about the room; her appetite failed, and her sleep became interrupted. On the 11th May it was again necessary to relieve her of the weight, and four quarts were drawn off (when the canula became stopped) which did not reduce the size of the abdomen much. On the 27th May, a phlegmon, which had been forming in the seat of the wound in the linea alba, opened, and a small quantity of purulent fluid was discharged, which continued to flow at intervals, in sufficient quantities to prevent any great distention of the abdomen, till about the 21st of August, when she again desired to be tapped, and about 10 quarts were drawn off, the matter being unusually offensive. She bore the operation well, and the abdomen appeared sufficiently emptied.

Her strength and appetite had been gradually failing her for some time, and she did not make a good recovery after this operation; she slept badly, scarcely ate any thing, kept her bed, and died on the 7th September.

Before I notice the pathological condition which the *post mortem* inspection revealed, I will state the views I entertained previously to the autopsy. The diagnosis I formed of the case, at first, was, that it was ascites, probably owing to her advanced time of life (although her constitution and general health were unusually good for her age) as no organic change could be detected in the heart or liver, nor did the urine afford any indication of alteration in the renal structure. The ovarian tumor, however, may, probably, have existed for some time previously to its discovery, as it had acquired such considerable size when it was first detected: if not, its growth in 10 months must have been very rapid. Its situation in the epigastrium did not mislead from a cor-

rect diagnosis, the sensations of the patient indicating its connection with the right iliac region, and to this cause, in all probability, the ascites may be attributable. The extraordinary nature of the fluid evacuated in July, 1845, and the disappearance of the tumor, led to the opinion, that either it had burst into the peritoneal cavity, and become intimately mingled with the dropsical fluid, or that the tumor had accidentally been punctured by the trochar. The previous sensations of the patient, as well as the homogenous nature of the fluid, and the total disappearance of the dropsy, favored this view, while the absence of symptoms of constitutional irritation, threw doubts on the correctness of this idea; the advanced time of life of the patient, might have been unfavorable to the development of constitutional irritation, but it could hardly have been an effectual preservative. On the whole, I concluded, that the tumor had, after being opened, formed adhesions to the abdominal walls, and was safely punctured on all occasions: the formation of matter appeared a sufficient explanation of the rapidity of the growth of the tumor. The complete and sudden disappearance of the dropsy was not so easily explained.

*The Autopsy.*—The body was much emaciated; the abdomen considerably distended, and very prominent, unlike its ordinary appearance on former occasions; about 5 or 6 quarts of purulent fluid, like what had for the last twelve months been discharged, was evacuated by puncture. On opening the abdomen, it was found that this fluid had been contained in a cyst, having firm dense walls, as thick as the strong leather generally used to make "beef moccasins," or coarse boots. This sac was so extensive that it quite concealed the entire of the abdominal viscera; it was loosely adherent to the abdominal peritoneum in many points, by long bands of loose cellular texture, apparently of old formation, which were easily torn down. Towards the hypogastric region, the tumor was free and unattached, and presented the shining and healthy appearance of serous membrane; in like manner, the parts adherent to the walls of the abdomen, when detached, presented the characteristic appearance of serous membrane. There were no recent formations or effusion of lymph.

The color of the sac generally, was a mottled brown, or red and white, in some parts being more of a livid hue, and very vascular. Its inner surface was thickly coated by a tenacious puriform lymph; two large pieces (the size of a hand) of thick adventitious membrane, coated with pus, were found in the cavity, in a great measure detached. Two cysts, about the size of a hen's egg each, were found in the walls of the sac, or attached to its outer surface; they contained a yellowish gelatinous looking fluid, like synovia.



The right fallopian tube stretched along the tumor, for about 9 inches, and was about half an inch broad. The left ovary was of small size, very hard and cartilaginous. There was also a small cyst, or hydatid, attached to it. The internal membrane of the uterus was of a rose color, but, in every other respect, normal and healthy. About a drachm of sanguineous looking fluid, like menstrual blood, was found in the cavity. The small intestines were remarkably vascular and injected, but did not appear inflamed, nor was there any effusion of any description into the peritoneal cavity, or any alteration of structure in the serous membrane. The kidneys were small and normal; the liver healthy and natural: a gall-stone, the size of a hazel nut, was found in the gall bladder.

#### Remarks.

Among the several diuretics employed, the pyrola umbellata was exhibited for a long time, and appeared to agree very well, seeming to possess tonic, as well as diuretic properties. During the year about 79 quarts of purulent fluid were drawn off, in addition to what flowed from the puncture spontaneously, during the months of May and June, which may be estimated fully at 20 quarts, and to this is to be added 6 quarts removed at the autopsy, which will make the whole amount to 105 quarts, secreted during little more than a year—an amount, I believe, exceeding anything of the kind on record.

#### IODINE LINIMENT IN BOWEL COMPLAINTS.

By J. DUNCAN MACDIARMID, Staff Surgeon, 2d Class.

Having employed "iodine liniment" as an external application to the abdomen in various affections of the bowels with marked benefit, I would wish, through the medium of your Journal, to communicate the fact to "all whom it doth concern," that its virtue in such cases may be tried.

It may be that it has been employed in this way by others, and if so, I think they would be conferring a favour on the profession by communicating the results.

The iodine, in the proportion of a scruple to the ounce of olive oil, is freely smeared over the entire surface of the abdomen, and the operation is repeated as soon as the liniment is absorbed, and the skin has again become dry and colourless, or almost so. In infants two or three applications may, I think, be safely employed in the twenty-four hours, and in the adult more frequently, if necessary—that is, in acute cases; while in those of a chronic form, probably its free application once a day would be the more advisable plan. But in all, I would only employ the liniment as an adjunct to the ordinary treatment, which, however, by itself, is often very un-

successful in the bowel complaints of children during the hot months.

In the acute forms of diarrhoea of infants, in which the surface of the abdomen feels hot and dry, somewhat tender and full, with great irritability of the bowels and frequent watery stools, changeable in colour, and offensive, with symptoms of a febrile state generally, I have seen in some cases an almost magical effect from the liniment, and that in a few hours.

In chronic forms of the disease, where there is increasing emaciation, and the glandular system connected with the digestive organs are evidently obstructed, the careful employment of the iodine liniment will, I think, in conjunction with other suitable measures, prove a very satisfactory remedy.

There are those in the world who would continue their observations on any new remedy, or mode of treatment, with jealous privacy for a series of years, and then astound the world with some wonderful discovery or other; but I think that if we possess fair grounds for considering that such and such a remedy, or mode of treatment, possesses certain advantages, we should take an early opportunity of applying it generally in the alleviation of the ills of mortality. I would rather know that I had been the means of relieving one poor little suffering infant by a simple suggestion of mine, improved upon by others, than have all the credit, after a long lapse of time, of this or that discovery.

Prescott, October 19, 1846.

#### POISONING BY OIL OF TURPENTINE.

By R. W. EVANS, M. D.

Mrs. B—— sent for me in great haste to see her son, *et. 14 months*. On my arrival the greatest consternation prevailed, being informed by the person that came for me, that the child had swallowed four ounces of the oil of turpentine, which Mrs. B—— had procured to apply for rheumatism.

The turpentine was kept in a long-necked bottle, which had been formerly used to hold milk for the use of the child. In the absence of the mother the child procured said bottle, and drank about four ounces of turpentine, which caused him to cough immediately, together with alarming cries, which aroused the attention of his mother, when, lo! to her astonishment, she was told that "Billy" had drunk all the turpentine.

I found him two hours after the above occurrence, in a comatose state, pulse 130, tunica conjunctiva injected, pupils dilated, eyes watery, face flushed, breathing hurried, strangury, urine the smell of violets, bowels painful, particularly along the course of the spermatic vessels.

He was ordered an emetic of ipecac. Vomiting was soon excited, and briskly kept up by tepid water; the



contents of the stomach had a strong odour of the turpentine. After the operation of the emetic, aq. ammonia acet. 3i., omni hora, cold applications to head, and flannel cloths wrung out of hot water to be constantly applied to the epigastrium. At 6 P.M., same day, eight hours after I first saw him, much improved; is quite lively; pulse 120; bowels loose; had passed eight small worms. Ordered tinct. opii. iv., and aq. ether nit. gtt. v., to be given at bedtime.

On the following day decidedly better; slept well during the night; slight pain in the bowels on pressure. Gave ol. ricini 3ij. From this time he was daily recovering, except a little excitement about the brain, but in four or five days he was perfectly recovered.

I have no doubt, if the child had been neglected, he would have paid the debt of nature for this "singular debauch." However, this case may prove a warning to parents and others leaving medicine (although not ranked poisons) in the way of children; many have fallen victims by such neglect.

Richmond, C.W., Sept. 29, 1846.

#### USE OF CASTOR OIL IN MUCOUS MEMBRANE CASES.

By Dr. THOMSON, Barton-on-Trent.

[Dr. Thomson believes there are but few cases of diarrhoea occurring in infants under a year old but what may be cured by castor oil, even when ulceration has taken place: as shown by a predominance of blood in the evacuations—tenesmus, abdomen tumid and painful, mouth dry and aphous, &c., &c. He gives the castor oil with yolk of egg, and according to circumstances does or does not add a gentle opiate. He recommends, however, as accessory, the warm bath, liniments to the abdomen, and occasionally a mild mercurial dose. He observes]—

No mercurial so quickly changes the character of the evacuation as the emulsion, which only requires to be steadily persevered in. The following is the form in which I generally prescribe it for infants:—For an infant of from two to four months old: R. Ol. ricini, 3i—3ss, Vitelli ovi semis., Aq. aneth. feneculi, aa. ʒi. Ft. emuls. Sumat. cooh. parv. bis. die. To the above, from two to six drops of laudanum may be added, or not; but, of course, this as well as the size and frequency of the dose, must vary with the case. The mixture is generally taken readily, and even liked. The same preparation is equally useful in that form of intestinal affection which is met with in children of from one to nine years of age, but presenting slightly varied symptoms, such as the tendency of the evacuations to become watery, brown, black, and very offensive; the picking of the lips, nose, &c. In a case of this nature which lately came under my care, the patient, a boy aged three years, lay almost insensible and somnolent. The evacuations, resembling black dirty water, and very offensive, were passed eight or ten times in the twelve hours. Other symptoms of subacute inflammation of the mucous membrane were also present. After the first dose of simple emulsion, there was no motion for thirty-six hours, all the other symptoms becoming ameliorated. The medicinal action of oil is certainly much modified by its union with the yolk of egg, for the same dose which would act well as an aperient alone, when thus combined will scarcely act at all.—*Monthly Journal of Medical Science.*

#### STATISTICS OF CRIME IN THE DISTRICT OF MONTREAL

By Mr. JUSTICE McCORD.

To the most superficial observer, the enormous increase

of crime in this Province, and particularly within the populous District of Montreal, must be self evident.

Six courts, holding criminal jurisdiction over the District, are annually held in this city, and their proceedings are carefully recorded and published by the daily press, and the attention of the public directed, by many able communications, to the increasing evil, and the necessity of taking measures to check the torrent.

Thus far nothing has been done.

Believing that a tabular representation of the actual state of the criminal statistics of this District might call the attention of the Legislator to this moral disease, and induce him to apply the healing remedies so urgently called for, I have compiled tables showing the disproportionate increase of crime over population, since the year 1828.

*The awful result come to, is, that whilst population has increased in the ratio of 33 per cent, crime has augmented at the rate of 100!*

The inquiry into the cause of this fearful increase, and its remedies, comes, properly within the duties of the Legislator, and in this examination I would respectfully direct his attention, among many other causes, to the following:—

The unnecessary number of houses of public entertainment, particularly those of an inferior class, such as taverns, beer shops, &c.; the total want of houses of correction and of refuge for young delinquents, and the absence of all prison discipline and classification.

In conclusion, I cannot forbear quoting the following extract from the *Law Magazine*, published in London, which so ably and truly depicts our actual situation in this colony, that it might be supposed written for us and not for England.

"Our punishments are ingeniously devised to abet their efforts, for not only are our prisons admirably planned for the further corruption of youthful offenders by the society of the vilest criminals before trial, but they induce the after-destitution, which, with valuable opportunity for the purpose, they do but little to prevent.

"Imprisonment, in the abstract, so far from improving, may harden the offender: and it often deprives him of the means of supporting himself with honesty when it terminates, thus driving him to a return to dishonesty as his only accessible resource. It would be far otherwise if prisons were schools of industry as well as correction; and seeing the wonderful effects produced by the industrial system where it has been fairly tried, and a useful trade is taught, it appears a national wrong to defeat the chief object of punishment by neglecting the means of improving, whilst we imprison criminals. Measures for the separation of astried prisoners are, it is true, in progress in many places; a tardy removal of a crying evil! The introduction of the improvement of prisoners is yet to be begun. In the meanwhile let us remember that about eighty per cent. of all our convicted offenders are forthwith consigned to these normal schools of vice; that being the real character of our prisons before conviction."

*Compiled from the records of the Queen's Bench, and Quarter Sessions, shewing the increase of crime within the periods referred to.  
By J. S. McCord, Circuit Judge.*

	1829.			1830.			1831.			1832.			1833.			1839.			1840.			1841.			1842.			1843.		
	Indict.			Indict.			Indict.			Indict.			Indict.			Indict.			Indict.			Indict.			Indict.			Indict.		
	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.	Men.	Women.	Convictions.
<i>Crimes against Person.</i>																														
Murder and battery.....	25	4	19	17	2	6	24	3	2	37	3	3	68	7	13	19	1	5	26	7	11	24	1	10	22	1	17	18	0	
On officer in ex. duty	4	0	2	0	0	0	3	1	0	6	1	0	12	0	2	21	2	3	32	5	6	5	2	0	5	0	8	0	0	
With intent to maim..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
do. rob.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	
do. ravish..	4	0	2	1	0	0	3	0	0	2	0	1	5	0	0	0	0	0	3	0	2	2	0	0	5	0	1	0	1	
do. murder.	0	0	0	0	0	0	4	0	1	4	0	0	3	0	0	10	0	3	33	2	6	20	2	6	13	3	3	10	0	
9	2	0	2	14	0	0	21	0	2	16	2	0	23	0	2	13	0	7	23	3	6	34	1	6	0	0	0	39	0	
able entry & detainer	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	0	0	0	0	
piracy.....	3	0	3	0	0	0	9	2	0	8	0	3	0	0	0	4	0	0	14	0	0	6	0	0	2	0	0	0	0	
or sending challenge	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
privately from person	2	0	2	2	0	2	2	0	1	11	0	7	0	0	0	3	0	3	0	5	1	0	0	0	0	0	0	0	0	0
way robbery .....	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	1	0	1	6	0	1	7	0	0	4	0	1	1	0	
dealing birth of child..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	
1	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	1	0	0	3	0	1	
slaughter .....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
der .....	1	0	0	1	0	1	2	0	2	0	0	9	1	2	5	1	0	16	0	4	5	0	0	2	0	0	3	1	1	
ning .....	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
ciously shoot. at per.	0	0	0	2	0	0	0	0	0																					

# ABSTRACT FROM THE FOREGOING TABLES.

Population of *District of Montreal*, 1831, 277,637; in 1844, 370,342.

	1829.	1830.	1831.	1832.	1833.	1839.	1840.	1841.	1842.	1843.
	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.	Indicted.
	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.	Convicted.
Offences against the Person,.....	55 30	41 9	78 8	101 14	140 27	80 22	193 38	112 22	61 22	88 18
Offences against Property,.....	74 45	79 36	90 53	115 31	211 75	239 125	322 126	181 79	253 164	207 134
Offences against public peace, decency, &c. ....	8 6	1 1	4 6	7 8	28 11	100 18	182 8	54 13	32 5	47 11
Total,.....	137 81	121 46	178 65	283 53	379 113	419 165	697 172	347 114	346 191	342 163

N.B.—The two heads under which the extraordinary increase will be found, are *Larcenies* and *disorderly houses*. The statistics of the years between 1833 and 1839 have been purposely omitted, on account of the political state of the country during a portion of those years. *Mem.*: these tables are exclusive of offences cognizable by the Police, and not indictable.

Yr.	In.	Co.
1832—283	53	
1833—379	113	
1839—419	165	
1840—697	172	
1841—347	114	
1842—346	191	
1843—342	163	
	2813	971
	401	138

Yr.	In.	Co.
1829—137	81	
1830—121	46	
1831—179	65	
	437	192
	145	64

Yr.	In.	Co.
1829—137	81	
1830—121	46	
1831—179	65	
1832—283	53	
1833—379	113	
First 5 years.	1839—419	165
	1840—697	172
	1841—347	114
	1842—346	191
	1843—342	163
Total,.....	2151	895
Annual Average,.....	430	
Indicted,.....	430	
Convicted,.....	161	

Shewing, previous to 1832, an annual average of 145 indicted, and 64 convicted, and since 1832, 401 indicted, and 138 convicted. Again, if the average of the first three years be compared with the average of the last three, we will have 145 to 340, or more than double which will be found, I fear, the true state of the case. Since the foregoing tables were compiled, Captain Wily, chief of the police for the city of Montreal, has prepared and submitted to the Police Committee of the Corporation, the following statements, which will supply what was wanting to complete the melancholy *tableaux* of the criminal statistics :—

If, therefore, these two periods be compared, it will be found that during the last five years, the number of persons indicted has nearly doubled, and the convictions more than doubled. But it would appear that the great increase commenced in 1832; if, therefore, the average of 1829, '30, '31, be taken as a mean of the years anterior to 1832, the following table will shew a still greater disproportion, and a fearful contrast between the present state of morals in the district, and that prevalent a few years back.

# STATISTICS OF CRIME IN THE CITY OF MONTREAL,

Showing the number of Persons Apprehended by the Montreal City Police, and the manner in which they were disposed of—

From 1st January to 31st December, 1845.

MONTHS.	OFFENCES.										COMMITTED TO HOUSE OF CORRECTION.										Admonished and Discharged.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Murder.	Infanticide.	Forgery.	Rape.	Arson.	Passing Counterfeit Money.		Larceny.		Suspicion of Larceny.		Obtaining goods under false pretences.		Drunk in the Streets.		Drunk and Disorderly.		Breach of the Peace.		Vagrants.		Impeding and Inconveniencing.		Desertion, (Apprentices.)		Indecent Exposure.		TOTAL OFFENCES.		Tried and Fined Summarily.		Committed for Fifteen Days.		Committed for One Month.		Committed for Two Months.		Boys.	Committed for Trial.	Bailed for Trial.	Bailed to keep the Peace.	Committed for want of Bail.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.		F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.						F.	M.	F.	M.	F.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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## PRACTICE OF MEDICINE AND PATHOLOGY.

## A TREATMENT OF INSANITY AND NERVOUS EXCITEMENT.

By JOSEPH WILLIAMS, Esq.

[Dr. J. Williams strongly recommends the use of narcotics and other remedies calculated to produce sleep, not only in order to put off, but even to cure an attack of mania. He observes that]—

Some of the mildest cases which occur, where there is preternatural excitement with vigilania, are those of persons having over-fatigued the mental powers by continued application, more especially if confined to one subject; and the ill-effects seem to be produced more frequently in those whose hopes and fears, are in addition adding to the excitement, as is often noticed in junior barristers and students at our universities.

Now, in such instances, if a young man apply early, the case is usually cured very rapidly, sometimes even within twenty-four hours; if passed over for a few days, recovery is retarded, and if totally neglected, phrenitis or mania by no means unfrequently ensues. In such cases there is a great action, which is but too frequently mistaken for power; the pulse is quick, perhaps 100, 120, or even more, tongue white, face flushed, throbbing and heat of the temples, rolling, sparkling, and injected eye, rapidity of speech, and everything showing great excitement; now this description is not sufficient to guide us as to the treatment, for all these symptoms may depend on excessive nervous irritation, but more attention must be given to the pulse for if the pulse, in addition to being quick, is also full, hard, and bounding, and if the skin is dry and hot, then the abstraction of blood, both general and local, will usually be necessary, and often within an hour or two after depletion, the skin becomes moist, and the patient falls asleep. But what I am the more anxious to particularize, is the opposite condition, where bleeding is unnecessary and unsafe. Supposing the pulse to be quick, soft, and fluttering, weak or intermittent, the skin moist and clammy, and yet the excitement just as decided as in the other case, to bleed here is most improper, and many cases of insanity have arisen from such practice. The judicious administration of a narcotic will frequently act as a charm, and we have often found the following prescription very useful:—

R. Tr. Hyoscyami m xxx.; Tr. Humuli 3ij; Camphoræ gr. v. ad. x. aut. xv.; Syr. Auranti 3ii; Mist. Camphoræ 3vj.; M. et fiat hustus, h. s. s.

This has often caused calm and refreshing sleep; and the patient, who has previously passed two or three nights with great restlessness and watching, feels himself invigorated, and receives the medical attendant with the greatest gratitude.

[Amongst the remedies for procuring sleep, Dr. Williams notices bleeding. This should not be adopted, unless demanded by very urgent symptoms, lest the constitution should not be able to rally. He remarks here, that]—

A very efficient way of relieving head symptoms, when dependant on visceral congestion, more especially of the liver, is applying leeches to the rectum, and if considered necessary, subsequently placing the patient in a warm bath; a large quantity of blood may be lost in this way without producing much prostration. Many cases of insanity arise from extreme irritability, dependent on prostrated power; and to support this power by good nutritious food, and sometimes even with brandy and wine, at the same time soothing the system by procuring refreshing sleep at night by morphia, will speedily evidence the advantages of such treatment.

The great error originally was, allowing the powers to sink; it is of the greatest importance that these powers should be supported—the nervous excitation must be calm-

ed. In these cases, mistakes are but too frequently made; irritation is confounded with inflammation. The maxims so ably taught by Mr. Travers are forgotten; the object being to calm the action, not to diminish the power—this nervous power being much more easily depressed than raised. Should this advice be neglected, and bleeding be ordered, stupor, or coma, or confirmed mania may be the consequence. In many cases where there is the most ferocious derilium with great muscular power, yet where the pulse is very quick, weak, and fluttering, even the slightest depletion at once knocks down the powers; and even if the patient should again rally, there is great danger of his becoming idiotic. As Dr. Marshall Hall has so truly stated—under irritation, exhaustion is sooner produced than in health; while under inflammation, the system bears loss of blood, with less exhaustion than in health.

When a patient is in a highly excited state from loss of blood, a full dose of opium is the best medicine we can employ, and it is often successfully prescribed in that highly nervous state so closely resembling mania; and if, when that excessive restlessness occurs which precedes puerperal mania, a full dose of opium be given, such as 1 gr., 1½ gr., or 2 grs., this formidable disease may be often prevented, and as a prophylactic, opium may be considered invaluable. In some instances Dover's powder, or morphia, may be preferred; but generally the opium itself is more valuable in these cases of exhaustion. Anæmia of the brain, so strongly pointed out by Dr. G. Burrows, has been but too little regarded until lately. Many cases where there is great action, require stimulants and support; thus, in the case of a young man, æt. 44, [?] mentioned by Abercrombie, there was at first great depression, want of sleep, with incessant talking: reaction took place, excitement increased, pulse 160, continued talking, and obstinate vigilania; yet stimulants were here required, as after death no traces of inflammation could be found.

[Purgatives may procure sleep, by diminishing vascular action, where bleeding is inadmissible. Narcotics, when given in insanity to procure sleep, should be administered in full doses. Dr. Williams says on this point]—

It is impossible to limit the extent to which opium may be required; but in stating that a full dose is necessary, from two to five grains may be considered a large dose for most constitutions; where habit has impaired its effect, one and even two drachms of solid opium have been taken in a very limited period. Pinel knew 120 grains of opium given in one dose to a patient suffering with cancer of the uterus; and I have seen a wine-glassful of laudanum taken at a draught, and this has been repeated three times daily for months—such cases, however, necessarily form the exception.

Dr. Burrows has never ventured beyond five grains, and generally begins with three grains, repeats one grain every two or three hours, never allowing it to exceed twelve grains, when, if sleep has not resulted, he desists. This must be admitted as a far safer practice, than to give fifteen grains or two scruples for a dose, as advocated by some. If prescribing opium to a person not habituated to its influence, the second dose should be smaller than the first, by combining it with calomel or antimony, or James's powder, it does not so much disturb the usual secretions; there are cases where Dover's powder, and occasionally even the pulv. cretæ comp. c. opio may be necessary. It is well to remember that when opiates are indicated in cases of insanity, the dose must be large. Combining opium with camphor or henbane or digitalis, will often be very judicious. With tartar emetic, calomel and opium in large doses will often calm the system when there is great restlessness and fever, especially if the head be kept cool. Opium should never be omitted where insanity has succeeded constant intoxication; and in those cases where the countenance is exsanguined, with a cold clammy skin, it is especially in-



dicated, and is no less useful in that anæmial state of the brain where there is great exhaustion, in whatever way produced.

Where there is constant vomiting, opium may be administered in an effervescing draught. Opium is now rarely ordered from day to day as formerly, having given place to the preparations of morphia, but should it be considered necessary, it will be advisable to combine it with some aloetic preparation. The infusion of opium with a bitter, as recommended by Dr. Paris, will secure the narcotic principle without interfering with the intestinal secretions. If opium be ordered solely as hypnotic, it should not be in combination with aromatics, as is the case with black drop; for although this preparation is stronger than laudanum and decidedly more anodyne, yet its narcotic power is considerably diminished, while its stimulating effects are augmented.

The liquor opii sedativus is undoubtedly much milder in its effects, and less stimulant than laudanum, and many years ago I made it the subject of experiment, in order to determine as to its efficacy, and I found it more uniform and certain in its effect, while it did not cause the disagreeable waking symptoms so often noticed when an opiate has been given. Many persons who slept with it, passed a restless and uncomfortable night when laudanum was substituted for it. Battley's solution has been of the greatest service, and I believe it to be surpassed by no preparation, except the hydrochlorate of morphia. When opium has disagreed with a patient, a strong cup of coffee will often remove the unpleasant effects.

Administering an opiate in the form of enema renders it much milder, and at the same time secures its sedative and narcotic influence, without producing that headache, sickness, and dryness of the fauces, so often complained of when opium is taken by the mouth. Dr. Burrows has found it induce sleep, soothe and relieve delirium, when, if administered by the mouth, mania would have become worse. The French, who use enemata more than ourselves, are very much opposed to introducing opium in this manner! this is somewhat singular, as the effects are generally milder than when taken by the mouth. This is a good plan of administering medicines when patients obstinately refuse to take them.

If narcotism be highly desirable, and neither of these modes seem practicable, rubbing the abdomen with laudanum and oil will sometimes be found effectual. The practice was adopted by Whyte; when he found a patient could not bear laudanum, he ordered three or four teaspoonfuls to be rubbed over the stomach and belly; this, if necessary, he repeated every six or eight hours. He also mentions the case of a woman who suffered from vigilania and took opium internally; and a solution of opium in spirit of wine was often applied to her head and neck, and always gave her ease. Mr. Hill found, when there was disturbed sleep, rubbing the head with lin. camph. fort. 3ss. of opium to each ounce, was no contemptible auxiliary in procuring rest; and opiate frictions were insensibly used and strongly recommended by Dr. Chiaragi of Florence. These narcotic frictions over the head will be often found useful: even brushing the hair with a common hair brush for half an hour, will frequently tranquillize a nervous and irritable patient. In some cases it may be necessary to rub the scalp with liniments, or ointments, containing morphia, belladonna, veratrina, or aconitine.

**Morphia.**—Where opium disagrees, morphia will often be useful: it has been found that the narcotine of the opium causes many of those distressing sensations of which patients complain who have been under its influence. The acetate was the first preparation of morphia introduced, and was largely employed with great satisfaction; still, however, it was noticed, especially when a large dose had to be prescribed, that peculiar spasmodic effects ensued; and

the hydrochlorate having been subsequently tried, was found immediately to produce its direct calming and sedative effect, without the distressing jumps and twitchings so often noticed when the acetate had been taken: and general experience now fully proves that morphia may be given without producing that headache, dryness of fauces, vomiting, and subsequent distress, not unfrequently caused by opium, so that when this disagrees, morphia may be tried with more than probable success. Another great advantage of morphia is that it may be continued daily for weeks and even months undiminished in effect, without increasing the dose, and without producing any disagreeable or troublesome symptoms when, if opium had been thus administered, dementia or idiotism would have probably ensued. The hydrochlorate stimulates less than the acetate, and is the most valuable remedy we possess for calming excessive excitement.

**Digitalis** was employed by Dr. Cless, of Wurtemberg, in delirium tremens, in full doses repeated every two hours. He says, that when narcotism occurred, recovery followed.

**Hyoscyamus** has in numerous cases special advantages. It is much less apt to produce bad dreams than opium; it has no tendency to induce constipation; it increases the renal and cutaneous excretions. Its calmative and tranquilizing effects even when it fails to cause sleep are most admirable. Opium in combination with hyoscyamus is often rendered much milder and more uniform in its action. With camphor, henbane is very useful in producing sleep and tranquillizing the irritability of the insane, and has been recommended by numerous authorities. Some are in the habit of giving five grains of each every four hours; but Dr. A. T. Thompson prefers one large dose of ten grains of each, to repeating smaller doses. From v. to x., xv., or even xxx. grains of the extract may be given at once; when necessary to be repeated, from gr. v. to gr. x. may be considered an average dose. If an over-dose be given, it may occasion stupor, vertigo, convulsions, and even coma. It will here be necessary to give a caution as to exhibiting henbane as an enema; several fatal cases have resulted from this indiscretion; and therefore it should never be given in this form.

**Camphor** acts first as an excitant, the heart's action is increased, blood is thrown to the surface, diaphoresis succeeds, the pulse then falls, and sleep follows; owing to its diffusibility it acts more rapidly than other narcotics. If given in small doses, it acts only as a stimulant, and it is with such intention Dr. Sutherland combines it with myrrh in cases of debility. From ten to fifteen or twenty grains must be given to produce its sedative effect; if half a drachm be administered, it acts very powerfully as a narcotic, and is often found very useful in calming delirium. It may be necessary to combine it with opium, hyoscyamus, digitalis, nitre, ipecacuanha, or antimonials; the choice of course depending as particular symptoms may indicate. In camphor, as with hyoscyamus, although acting for a short time as an excitant, yet a calmness speedily succeeds, and the pulse falls. These two combined will often lower the pulse in mania considerably, and Dr. Hallaran considered if it did no other good, it reduced the febrile diathesis.

**Belladonna**, by diminishing the sensibility of the nervous system, may cause sleep in maniacs. Some physicians, however, object to its employment, believing that patients often awake from the slumber which it induces, more troublesome and violent than before. As illustrating the beneficial effect which may sometimes be obtained from its endermic administration, the following case is quoted. A publican, aged 36, an habitual drunkard, subject to attacks of delirium tremens, was visited by Mr. Flood, of Leeds, who found him with the usual symptoms indicating delirium tremens; pulse 100, weak and irritable, tongue clean, urine scanty, dark, and offensive, blood voided in large quantities

by stool; insomnolent for a week. Head to be shaved; twelve leeches to temples; cold lotions; strong purgatives till bowels relieved. Within eight hours the bowels had been freely emptied; pulse 100, no sleep, great restlessness and agitation. The hydrochlorate of morphia in two-grain doses, subsequently increased to ten grains, with one grain and a half of tartar emetic, also increased to eight grains, were administered every two hours, with two table-spoonfuls of the following mixture:—*R. Ammoniae sesquicarb. ℥ij; tr. opii ℥i.* (subsequently increased to *℥i.*); *mist. camphorae ℥viij; m. ft. mist.*

The next day no improvement; no sleep; cupped to eight ounces; narcotics increased. Has been gradually getting worse up to the seventh day of attendance. Hyoscyamus, opium, and morphia, in every form, with digitalis and antimony, cold affusions, and his usual stimulus, all have failed—pulse 110, weak and irritable—ungovernable.

*Eighth day.* Bowels have been well cleared by castor oil, and a blister has been raised between the scapulae. The cuticle was stripped off by Mr. Flood to the extent of three inches by two inches, and covered by a layer of pure extract of belladonna. It excited acute pain, which subdued his previously boisterous condition; the pain ceased in three minutes; in five minutes twitchings of arms and facial muscles; appeared intoxicated; the pupils, before contracted, in seven minutes became fully dilated; drowsy. In nine minutes the belladonna was removed, the patient being in a profound sleep, which continued for seven hours, neither disturbed nor stertorous. The pulse was at first 110, small and irritable; in five minutes 140; in 20 minutes 160; it then gradually fell, and in six hours it was 108, full and soft. He awoke quiet, but very soon became excited.

*Tenth day.*—Has been watchful since last report; opiates have produced no effect; apparently sinking from prolonged excitement. Another blister to be placed rather higher up than the former. Belladonna again applied; sleep followed in twenty-six minutes, which lasted four hours and a half; he awoke perfectly subdued, pulse having fallen to 70; passed a tranquil night, although without sleep; and after this gradually convalesced.

**ANTI-EPIDEMICS.**—Insanity is somewhat periodical; and it should be remembered that, when it is intermittent, it is not inflammatory, and in such cases, arsenic, *tr. ferri sesquichloridi*, the preparations of zinc, and copper, with tonics, may be often usefully prescribed. Arsenic can be strongly recommended in these cases, and has been given with the greatest advantage; it appears to alter the sensibility and irritability of the brain. Quinine is sometimes given with the same intention; thus, a case of insomnolence was cured by giving *gr. vj.* of quinine at bed time. M. Barbier of the Hotel Dieu, Ameins, ordered it, because every evening there was nervous agitation with pain, occurring *periodically*. Quinine was given two nights, the patient slept well—omitted, no rest—when again administered, six or seven hours of sound sleep followed. Quinine may be useful in many other cases—it acts very powerfully on the nervous system, as is proved by those temporary cases of blindness and deafness not unfrequently caused by large doses, especially when continued for a lengthened period.

The Douche, the author most properly remarks, should never be resorted to, except when imperatively necessary; and the application of the ice cap will generally be found far more efficacious.

Our object is to keep the head cool—and not to make it suddenly cold, and then suppose that we have done enough. If this be not kept in view, we may have strong re-action—and mischief, in place of good, through the injudicious mode of employing one of the most efficacious and certain remedies which can be resorted to in certain cases.—

*Monthly Journal of Medical Science.*

## TYPHUS FEVER.

By Dr. CORRIGAN, Dublin.

Let us, as we stand at the bed-side of a patient in typhus fever, recollect that in looking at the extent of the maculae, or for the presence of petichæ, or examining the distended vessels of the conjunctivæ, we are looking not at a mere local derangement, but that we are studying in these external indications the state generally of the circulatory system as a whole. In this view we can understand why we attach importance to the color of the maculae, why we look upon rose-colored maculae as a good sign, and dark-colored maculae as indications of danger.

The dark-colored maculae are indications of danger, because their color is owing, we know, to an enfeebled circulation. The feebler it is, the darker will be the color of the maculae; while the more energetic is the capillary circulation, the more vivid will be the colour of the blood passing through it. In this view we can also find an explanation of the fact, that a patient may have an intellect not disturbed, may have a cool skin, a clean tongue, a soft abdomen, a pulse not above 70 or 80, with volition and sensibility perfect—and yet die of typhus fever in seven or eight days. Of what does the patient die in such a case? He dies of this lesion of the function of circulation. In most cases this lesion is not the only one present, although often the most prominent; but I wish to fix attention on it in this that I may call an analytic view of fever, as it leads to a practical rule for the administration of one of our most important agents in the treatment of fever, viz., wine. You are too often bewildered in the directions as to its employment. You are told to beware of delirium in its administration, and yet, again, you read that delirium subsides under its use. You read instructions either to refrain from its use when the tongue is dry, or to judge of the propriety of continuing its exhibition by its effects on the tongue. Instead of attempting to reconcile all the contradictory statements, and, too often, inexplicable advices, that are laid down for you, turn from the books to the living book—the patient—and read from him. Ask yourself what is it in typhus fever you prescribe wine for? Is it for delirium? No. Is it to prevent its approach? Again, no. Do you give it for a dry tongue? Certainly not. What is it that, as you consider a patient's state, would lead you to think of its employment?—is it not the state of the function of circulation, taken as a whole, indexed to you by the pulse, on one hand, and by the state of the capillary system of circulation in the skin, on the other.

It is for this you give it. It is the specific remedy directed to remedy the general lesion of the function of circulation, and hence in its administration you may give it, and you must give it, whether there is or whether there is not delirium; for delirium may be present or absent in a case requiring its exhibition for the function of circulation. You should give it indifferently, whether the tongue is moist or dry; for the tongue may be either, and yet wine may be required; and hence the tongue becoming moist is not an indication that you may dispense with its use—nor its continuing dry, a sign to make you discontinue it. You may give it with a soft abdomen, or with an abdomen tympanitic, for similar reasons. You are giving wine, recollect, as the specific remedy for the lesion of the function of circulation (remember always comprising under this the capillary and cardiac circulation); and by the change in the circulation, and by this alone, are you to judge of the necessity of continuing, decreasing, or augmenting its dose. Under its exhibition, you will see the vessels of the conjunctivæ contract, the maculae become rose-colored, and the patches of skin in the face, and on dependent portions of the body, lose their dark livid hue. Keep this, then, in mind, the lesion in fever for which you give wine, is the lesion of circulation, and if this function from debility require it, you



must give it under all circumstances of derangement of other functions. Of the quantity required, it is quite impossible to lay down any rule. No two cases will have exactly the same amount of depression of circulating energy; no two cases will require precisely the same amount of wine. In some cases, four to six ounces are enough for a few days, in continuance, to restore the circulation to sufficient tone, in other cases it requires as much as one ounce of wine every hour, or 24 ounces in 24 hours; and even in addition to this, as much as eight ounces of brandy; and all this barely sufficient to preserve the circulation from sinking.

We must never abandon a case of fever, as long as there is life; we must remember what the post mortem of the case of Rodmond tells us, that in its present form there is no structural disease; that the patient, even in the dying moment, is sinking from a mere lesion of function, and that even then, recovery is not hopeless; and we must recollect what clinical observation of several cases even now under our own observation in the hospital tells us, that the patient one day, in a state seemingly moribund, may on next day, or within twenty-four hours, be out of danger. It will not unfrequently happen, that even the power of swallowing is lost for several hours; that a small portion of brandy or wine can only be got down by raising the patient in bed, throwing spoonfuls of brandy into the pharynx, and then holding up the patient's head until it descends to the stomach, apparently almost by its gravity. Even thus it sometimes cannot be passed along to the stomach, but even then we can stimulate the circulating system by injections; and in some cases which you have seen, I am confident the preservation of life has been owing to ether, given in the form of injection every two hours, in quantities of two drachms, until under its stimulating effect the circulation gained some vigour, and the power of swallowing returned.

With the same object of stimulating the capillary circulation, blisters are applied in succession over the surface. The nurse is supplied with four or six small blisters; one after another is applied, with intervals of six hours between them, over chest, abdomen, thighs, and legs. They are thus applied, not as counter-irritants, not to act as derivatives on internal structural disease, but as stimulants to excite the capillary system. An action produced in any part of it, will be conveyed through the whole, and thus their action on the skin coincides with and assists the action of the internal stimulus of wine, ammonia, and brandy.—*Dublin Hospital Gazette.*

### DELIRIUM TREMENS.

By Dr. CORRIGAN, Physician to the Whitworth and Hardwick Hospitals.

[In a clinical lecture delivered by Dr. Corrigan, some very valuable remarks are made on the different kinds of delirium tremens, and their treatment; in speaking of what is generally considered the asthenic form of this disease, he observes:]

A man comes under treatment, not after a few days' illness, but for a considerable time he has been subject in the morning to symptoms similar to those that follow the exhibition of large doses of opium, or of stimulants—symptoms, in fact, resembling collapse.

His stomach is sick in the morning, the skin is clammy, and he is unable to collect his mind for any purpose until the accustomed stimulus is renewed. In this way he continues for an uncertain period of time, till at length vomiting sets in; he can no longer drink, and now the state of collapse, or nervous irritation, such as precedes an attack of acute disease, comes on, and obliges the patient to seek advice. He cannot sleep; images of various kinds float

before the eyes; his stomach is sick; pulse quick and weak; skin cold and clammy—a set of symptoms constituting, as I have said, a state of collapse consequent on the cessation of long-continued stimulants. Your patient is altogether in a condition in which death may occur at any moment, so that the prognosis here is extremely uncertain.

In these cases it is necessary to give stimulants and opium; the opium, you are to remember, is given to allay irritation, and the stimulants in order to bear up the system. Cold douching and a variety of other remedies may be used; but upon them it is not necessary to dwell, as they are sufficiently noticed in every book you meet with. There is one particular symptom observed, usually I think about the second or third day, and one which is never absent; I allude to the tremulous motion of the fibres of the tongue, not of the whole body of the organ, but of a sort of independent motion of individual fibres here and there. The same thing is seen in the orbicularis muscle of the mouth. These signs are sufficient to lead us to a knowledge of the previous history, though the patient himself should deny the circumstances. It often happens that the patient has received a wound in some way; for instance, thrusting his hand through a pane of glass. Now, if, while you are giving the opium, you watch the appearance of such a wound, and find that, instead of secreting the natural purulent discharges, the edges are reverted and red, with the surface dry, you may be assured your patient will not recover; for these indications, like those of the tongue, only being more certain, are evidences that the nutritive function is arrested, and life cannot long continue when that function is impaired to a great extent. Such, then, is a sketch of the more frequent form of the disease.

The next variety gets a similar name—delirium tremens—but we should carefully mark the distinctions between this and the first described variety, or a fatal mistake may be made. And here I should observe, that it is the fact of thus erroneously describing under one name varieties in this disease, which has given rise to such a contrariety of opinions respecting the mode of treatment, &c., proper to be adopted in it. Dr. Lendrick, a man of great observation, first showed that the ordinary treatment, as opium and stimulants, would not do here, and that bleeding should be had recourse to. I believe, then, that two very different conditions of disease have been confounded under the same name; so you are not always to suppose, when you have got hold of a name, that you have, by any means, got hold of the disease.

The case I am now about to describe may be called sthenic delirium tremens. A man has been drinking for two, three, or four days, and is in a condition very different from the person who has been a long time accustomed to stimulants; there is in this man a state of irritation of the brain and nervous system only in a very trifling degree removed from actual phrenitis, and were you to give opium in such a case, it would act, not as a sedative, but as a continued stimulant, and you would thus be keeping up the diseased condition into which the patient had plunged himself. Remember, then, that this is a mild case, there being a certain amount of irritation, but a strong approach to positive inflammation. Gastritis is a common accompaniment of this form of delirium tremens, at least a state, like that of the brain, of approaching inflammation of the stomach, marked, as I have said, by some symptoms of nervous irritation, but nothing like the collapse of the former case. During the period of a general election, cases of the sthenic kind are frequently met with; for instance, a man of previous abstemious habits spends two or three successive nights drinking ardent spirits, and presents himself with the symptoms I have sketched for you.

In this, the sthenic form of the disease, then, do not give opium; apply leeches to the epigastrium, and to the head, as also cold lotions; these, with rest and small doses of mercury, are your chief remedies. When you have to

some extent allayed the irritation, you may then make a slight approach to the treatment adapted to the first case, but do not commence by stimulating. Recollect that a compound form of the disease presents itself in this case. We now come to the third division of the disease, a form of it in which very little active treatment is necessary; and I may tell you that the skill of the medical man is often most seen in his abstaining entirely from any decided treatment; good practice consists in that as much as in anything else. You must not entirely refrain, however, from giving medicine, if it were merely for the purpose of keeping in view the advantage of the impression on your patient's mind that you are making some exertion for him: and this is a point deserving your attention, for were your patient even a medical man, it would be necessary to act on this principle.

A man presents himself, who has been at one time temperate, at another drinking perhaps for two or three days, and is now labouring under more or less irritation of the brain, manifested by slight attacks of delirium, and want of sleep, forming, in fact, a link between the condition already described as asthenic delirium tremens and the state of collapse. The subject of a case like this gets repeated attacks of a trifling kind; he may be as I have just said, at one time temperate, at another—perhaps in travelling and stopping at different hotels—drinking three, four, or half-a-dozen days, and at length falls into a state constituting our third division; he is capable of exertion, understands what you say to him, and will speak collectively, but when left to himself, fancies strange sights hovering about him. He is neither, as I have said, in the state of the collapse of the asthenic form, nor does he betray the symptoms of cerebral derangement observed in the sthenic variety of the disease, but there is danger of the affection assuming the perfect form from the too frequent recurrence of these slight attacks of mental aberration. The patient takes little or no nourishment. This variety of the disease, then, forms as it were the centre of the balance—but let nature have the management of it; leeching will not be borne, from the previous habits of the patient, and if opium be given, so as to be followed by dryness of the tongue, great mischief is done; so do as little as possible. Give the patient as much cold air as you can, at the same time keeping his room rather dark. You may either give him ice, or a very cool saline mixture, or cold chicken tea. If restlessness should still persist, you may give small doses of opium, but much of the after-treatment had better be left to nature. The three divisions which I have sketched, you will find worth recollecting; they are such, as in an ordinary exercise of observation, in practice must force themselves upon you.—*Medical Times.*

#### ON EPILEPSY.

By Dr. C. J. B. WILLIAMS, F. R. S., &c.

[In a clinical lecture, Dr. Williams enters at length into the history of some important cases of epilepsy, which had been under treatment in his wards. He points out the variety of symptoms, both in kind and degree, manifested in this remarkable disease, from the transient but often repeated attack (as evidenced in one of his cases,) to that of long duration, marked by tonic or tetanic, rather than clonic spasm. He also alludes to that form of the disease, where, after consciousness has returned, there is left considerable stupor from congestion of the vessels of the brain. He here observes]—

In the cases, on the other hand, of which we are now speaking, there is a sudden loss of consciousness, with sudden and violent convulsions, lasting for a longer or a shorter time, generally for a short one, and terminating almost as suddenly by a complete cessation of the involuntary motion, and a complete restoration of the natural consciousness.

[When stupor remains after the fit, the attack bears more

resemblance to apoplexy than epilepsy:—the difference from apoplexy being rather in degree than kind; the oppression does not extend so far as the medulla oblongata, consequently the respiratory movements are not much interfered with. The effects of remedies substantiate the doctor's views as to the cause of this stupor, viz., congestion: yet in two of his cases the stupor was so speedily induced, and at last so quickly disappeared, that it can scarcely be accounted for on these grounds; neither did the depletory and derivant treatment avail, for the fits increased in severity and frequency. Dr. Williams asks]—

What is the true nature of these fits? Of what morbid elements do they consist? In the first place there is suspension of consciousness and volition; this occurs in all the fits, slight and severe; but in the severe fits, there are added convulsions: that is, exalted function of the excitomotor system. These two elements, then, constitute the fits—suspension of the functions of the brain, and excitement of the function of the medulla. But how can we account for this interruption to the function of one part of the nervous centres, and exaltation of that of the other? Can we give any reasonable explanation of it? I think that we can, and that in strict accordance with the whole facts of the history and treatment of these paroxysms. I would ascribe the fits to the mode in which sudden determinations of blood to the head modify the circulation through the nervous centres.

It has been observed in experiments on animals, that a certain amount of pressure on the brain causes stupor; a greater amount produces convulsions also. I have seen the same phenomena exemplified in a human subject, in whom a portion of the skull was incomplete from malformation; and the fact has been repeatedly observed in hydrocephalic patients. In these experiments, the pressure impedes or arrests the circulation through the brain, and by suspending its function causes stupor: but the current of blood being stopped from going through the brain, will go with greater force and rapidity through the cerebellum and medulla, and thus exalt their functions in an inordinate degree. The remarkable anastomosis of arteries in the circle of Willis supplies the channels for this diversion of force; and I cannot but consider this a wise provision of nature, to secure to the medulla oblongata, essential as its function is to respiration, an adequate supply of blood under varying circumstances of pressure or altered circulation.

And are not the respiratory movements increased in the epileptic fit? Most certainly they are; and so far from apnoea being the cause of insensibility in this fit, as Dr. Marshall Hall supposes, it is a mere occasional and accidental matter, an epiphenomenon, caused by spasm of the glottis, which is sometimes mixed up with the other spasms. Nay, I will go so far as to say that the increased energy of the involuntary respiratory movements is a great mark by which we may distinguish epilepsy from apoplexy, the worst forms of which essentially impair them. You will stare when I tell you that I have seen more than one patient in an apoplectic fit struggling for breath by voluntary effort! The involuntary powers of respiration have been impaired, and the powers of sensation and volition have not been totally abolished, so that the patient feels the want of breath and struggles for it. In these cases there has been hæmorrhage in the tuber annulare or medulla oblongata.

In epileptic and hysterical convulsions the functions of the medulla are excited, while those of the brain are in abeyance; and it is because among those of the medulla that of respiration is well maintained, that the insensibility of an epileptic paroxysm, however long, is not dangerous to life, as the coma of apoplexy. Has the idea never crossed you that there is a small degree of the same thing occurring in ordinary sleep? I have long suspected that sleep is dependent on a diminution of the circulation through the brain, and a corresponding increase through the medulla: the sensorial functions are more or less suspended: the

medullary functions are exalted. Hence the contraction of the pupil. Hence the sufficiency of the involuntary movements for respiration, now the sole means. Hence the greater liability to the occurrence of spasmodic and convulsive attacks during sleep, as instanced in the girl *Coupees*. Hence the superior hypnotic influence of moderate doses of opium, which exalt the medullary function at the same time that they impair the cerebral. Hence, too, the wakefulness often caused by hydrocyanic acid, which remarkably impairs the functions of the same medulla. But I want further and more direct proofs, before I can confidently broach the theory of sleep.

Admitting the notion that fits of epilepsy and convulsive hysteria are due to a diversion of the circulation from the brain to the medulla, we see an explanation why they begin and cease so suddenly. Any one who has watched the circulation through a frog's web must have perceived that if one of the anastomosing vessels becomes obstructed by any cause, the current takes a circuit the other way as freely as if there were nothing to obstruct it; but by and by, when this obstruction, be it artificial or otherwise, is removed, then the current suddenly goes back altogether, and restores the part to its natural condition. So it is with the blood vessels of the brain. When the causes, whatever they may be, which have disturbed the circulation in the nervous centres, and thrown the whole direction of the current through the spinal system at the expense of the cerebral system, are removed, the current suddenly becomes changed; it is restored, the circulation passes equally through the brain, consciousness returns, and the superfluity thrown upon the spinal cord is reduced.

But supposing this change of circulation sufficient to account for the phenomena, what facts have we to prove that such a change attends the paroxysms? One of the first is, that in all these cases, where there is a great tendency to the recurrence of these paroxysms, there are signs of derangement of the vascular system. The fits are, I believe, in almost all cases, palpably and obviously preceded by symptoms of determination of blood to the head; there is an increased pulsation of the carotids, or at the back of the head; or there is palpitation of the heart, directing increased force through the vertebral arteries. We find this illustrated by numerous cases that I have adverted to in former lectures as well as in the present. The immediate cause of a paroxysm is in general some moral or physical excitement producing violent action of the heart, particularly if the latter promotes a flow of blood to the head, such as with a stooping posture or overprolonged exertion. Many other things might be said in corroboration of the same point. The subjects in whom these fits are apt to occur, are usually those who present in a very high degree susceptibility to derangement in the vascular system. They are subject to palpitation of the heart, to violent throbbing of the head, sometimes in the carotids, and sometimes in the back of the head, sometimes in other parts of the body, but chiefly near the heart itself. They are often anæmic subjects, in whom the blood is unequally distributed, being monopolized by the parts nearest the heart, while the extremities are comparatively bloodless and cold. But there are other instances in which similar fits occur in plethoric subjects, and in these, I believe, that congestion in the brain is a chief part.

[In persons liable to epilepsy, the blood is very irregularly distributed, and whilst the carotids beat forcibly, the blood may not be freely circulated through the nervous centres.]

This monopoly of blood has two effects. If the heart is much excited, it may set the whole blood in the nervous centres in circulation; the consequences are, sensorial excitement and delirium; and this class of symptoms nervous anæmic subjects present during the irritation of reaction or fever. But in other circumstances we find, not excitement of the sensorial function, but the reverse, stupor, while the spinal function becomes exalted to the highest degree.

This is because the determination of blood to the head, strong as it is, is insufficient to set in motion the whole mass of blood in the brain; the current flows with increased force by the vertebral and posterior communicating arteries to the medulla and base of the brain—hence the convulsions; whilst the blood in the hemisphere of the brain is comparatively stagnant—hence the insensibility.

The great practical inferences from these observations are, that nervous susceptibility, as it is called, and a tendency to these hysterical or epileptic paroxysms in the severest forms of such affections, depend on irregularities of the circulation, and the great indication for the cure or prevention of these attacks is the adoption of means which shall equalize the circulation—render it as equal, as steady, and yet as complete as possible in every part of the system—not to allow one part to monopolize the blood, but to take various means to insure an equal distribution in every part.

The means by which we effect this will vary in different cases. The determination to the head is in some instances so strong as to threaten inflammation; or there may be signs of serious cerebral congestion: here blood-letting may be required, but the loss of balance generally takes place most in anæmic subjects, who can ill afford the loss of blood, and whose disorders arise, in a great measure, from this very cause. Hence depletion, although necessary in a few urgent cases, is generally an exceptionable remedy, and the object, in most instances, is to improve the vigour of the circulation, and increase the quantity of blood, rather than the reverse. But the leading indication is, to insure the equality of its distribution. Although we do not abstract blood, yet it is a clear indication to derive it from the head and spine, and we effect this by various means; to wit, by cold to these parts, and particularly to the back of the neck, by heat to other parts, particularly to the extremities; by purgative and diuretic medicines, by blisters, or other means of counter-irritation. These remedial measures variously combined and applied are all severally useful in such cases. We attempt the same objects more habitually by various regiminal means that keep up the cutaneous and extreme circulation; by regular, but moderate, exercise; by warm clothing of the surface and extremities; by the shower-bath; or cold sponging, followed by friction and other practices which promote a thorough distribution of blood throughout the body.

We have found that the action of the heart is often much disordered; the patient is very excitable, and subject to palpitation; this cannot occur without increasing the disorder of the circulation. Remember that the increased force of the heart does not set the circulation right; for it is the time that its throbs are violent in the chest, the pulses are weak at the extremities—here, in truth, is the cause of the fits. It is therefore an object to prevent these attacks of palpitation; this is one reason why I gave hydrocyanic acid, digitalis, henbane, and valerian; and most valuable they are. I do not know any medicines which are so successful in diminishing epileptic or hysterical convulsions; reducing its irritability, and acting as they do by tranquilizing the action of the heart, preventing those bursts of violent movement which derange instead of promoting the circulation.

Another indication will be the removal of all causes of excitement that set the heart in inordinate action—moral emotions, over-exertion of any kind, any irritation of the alimentary canal, of the uterine system, of teething. Infantile convulsions come from similar causes; they cluster together as a group of the same class. Any irritation which sets the heart in violent action may bring on paroxysms. I maintain that these sudden attacks are brought on mainly through an irregular distribution of blood dependent on a violence of action or a determination of blood from some similar cause. Teazing and irritating measures often do

harm in this way. For example, one man's fits seem to have been increased by severe counter-irritation; and they soon ceased under a soothing plan.

Lastly, there is a further indication to improve the tone of the whole system of blood vessels. There are some cases in which we find a beating in the carotids and subclavians, and fits ensuing as a consequence, and we cannot perceive that there is any palpitation of the heart. It is not that the heart acts more strongly, but a loss of tone takes place in the great arteries. They become unduly large, and let the current of the heart's force into them in too great a measure, causing a determination of blood. This takes place in an atonic state of the system, and is generally connected with other symptoms of loss of tone, weakness of muscles, depression of strength, liability to flushings of the face, loss of power and heat in the extremities, and so forth. It is a great indication in such cases to improve the tone of the system; and it is under this head that we may notice the operation of what are called tonic remedies. This is a very large class; some of these remedies do not appear to be stimulant at all; they seem to have very little operation besides being tonic or promoting the tonic contraction of animal fibre. Such, apparently, is the operation of nitrate of silver, sulphate of zinc, sulphate of copper, and some others. These are amongst the most useful remedies in diminishing the tendency to these paroxysms; and I suspect they effect it in the manner I have just surmised.

But there is another class of remedies still more useful, and I believe they are more useful because they promote the restoration of the natural circulation in a double mode—I mean chalybeate tonics, mineral acids, bark, quinine, &c.; but none stand so high as the preparations of iron. They improve the tone of the blood-vessels, and operate as astringents. None is so useful under such circumstances as the tincture of muriate of iron. In other cases the other forms of iron may be preferred, but in these cases, where there is palpitation of the heart and failure of circulation, the muriated tincture of iron is the best I know. And there is another operation beside that of increasing the tone of the animal fibre, namely, the restoration of the proper quality and quantity of the blood; and by effecting this the inequalities of circulation are also reduced. I have stated in the present lecture that these inequalities are usually connected with anæmia. In proportion as that is removed, so the vessels are better filled with blood of a better quality—more abundant in red particles, and in proportion as it is better circulated to the extremities, less expended on parts near the heart itself, in that proportion will the tendency to these fits or other evil results connected with irregular circulation diminish. Hence we find that although by hydrocyanic acid, digitalis, and other means of tranquillizing the circulation, in the first instance we can best prevent a recurrence of these paroxysms, yet we produce a permanent cure best by the tonic class of remedies. They improve the tone of the body, the condition of the general circulation, and render the heart's action more effectual for this purpose.—*Medical Gazette.*

#### ECTROTIC TREATMENT OF SMALL POX.

We copy the following from our esteemed contemporary, the *Medical Examiner*—and we do so for the purpose of exhibiting, that if in the application of the tincture of iodine to small pox with an ectrotic view, any merit is due to the original experimenter, that merit may with full propriety be claimed by our townsman, Dr. Crawford; whose views were detailed in a paper submitted to the profession, in vol. 1, No. 1, of the *Montreal Medical Gazette*, the circulation of which would thus either appear to have been limited, or its contents to have escaped particular observation. We subjoin the extract from our contemporary, as also the paper

of Dr. Crawford, and we call the attention of our contemporaries to it.—*Eds. B. A. J.*

Dr. Samuel Jackson, (late of Northumberland), was led in April, 1845, to make an experiment of aborting small-pox by the tincture of iodine, from contemplating its wonderful influence over erysipelas. He applied it to one arm of a child eleven months old, in confluent small-pox, on the third day of the eruption, and to the arm which appeared the worst, rubbing it freely on with a sponge, three times that day and twice the next. On the 11th day, when the pocks over the whole body were at their height, elevated with hard bases, those of the medicated arm were entirely flat, with thin, purulent matter under the dead cuticle, without any swelling of the part. There are, however, some very slight pits now to be seen, but they are very inconsiderable when compared with those on the other arm.

Dr. Goddard and Sargent have since tried the application.

Dr. Sargent used the iodine on one side of the face in twenty-five cases—"the swelling, soreness and tenderness were very much less than on the sides not covered; each pock remained flattened; but I cannot say that it prevented pitting."

Dr. Goddard writes that he tried the medicine in five cases—"not one of the patients shows the least pit or mark; none of them had been vaccinated, and the disease was confluent in most of them."

One advantage of this treatment, Dr. Jackson remarks, is "that it removes the cuticle and leaves the part free from those disgusting discolorations which commonly remain for months"—*Med. Examiner*, Aug. 1846.

#### To the Editors of the Montreal Medical Gazette.

GENTLEMEN,—Will you do me the favor to give a place in the *Montreal Medical Gazette*, to a suggestion which I wish to offer to my professional brethren, in expectation, that with their co-operation, it will be found capable of conferring a valuable benefit upon the public.

It is briefly, the application of the tincture of Iodine (*from Magendie*) to prevent the unsightly consequences which attend small pox, and further to render the disease milder and less dangerous, by its peculiar antiphlogistic powers.

I have been in the habit of using this application very extensively, in a great variety of affections for some years; particularly in acute rheumatism, neuralgia and erysipelas, more especially that of the face; and have reason to speak of it in high terms of commendation. Erysipelas having been very prevalent in this city during the last four years, I have had an opportunity of treating a great number of cases, and although many of these appeared in imminent danger, all except one, (that of an old hospital nurse, terminated favorably, and it is my conviction, that the mortality would have been much greater, had I not used this application. I would by no means exclude the use of constitutional remedies in this disease, which (although it especially shows itself as a peculiar local inflammation) is essentially dependent on a derangement of the general system; I have, however, on almost all occasions, seen such decided benefit result from its use, when perhaps little or nothing else has been done, that I would rather relinquish the use of every other application or remedy, than resign this one. A distinguished medical practitioner of this city, a short time since, admitted to me that he had not until lately done justice to this remedy, and that he now attributes any unsatisfactory results he had experienced on former occasions, to his not having properly and fully carried out its application. Although it is not my object at present, to extend this notice of its use in erysipelas, I must not omit mentioning, that I have, on many occasions, tested (contemporaneously,) the merits of the several local applications recommended in this disease, and I have no hesitation in assigning a superiority to it above all others. Observing this superiority, and at the same time the equality in the modes operandi, of this application, and that of nitrate of silver, it occurred to me, to make trial of it in small pox; with the view of preventing pitting and scars, for which object the nitrate of silver has been so frequently used.

A severe case of variolæ confluentia being admitted into the *Montreal Hospital*, in the end of September last, on the second day of the eruption, which was attended by considerable tumescence of the face, the forehead and one cheek were painted with the tincture, the immediate effect of which was to cause a good deal of pain, which however subsided in a short time, and appeared

in some degree to remove the burning and itching peculiar to the disease; the application of the tincture was repeated daily, with marked good effects, the tumefaction of the face in some degree subsiding, and the pustules becoming flat, as the remedy appeared to abate the violence of this inflammatory action, on the parts to which it had been applied; it was extended over the whole face; a comparative test was therefore not fully instituted; however, the parts most frequently painted formed much thinner scabs than those which had been less so; these crusts fell off sooner, leaving a surface distinguishable by the fewer pits and slighter marks. Although this case was very severe, and terminated fortunately, it was by no means a favorable occasion for experimenting, the eruption having already been two days out, and the inflammation and tumefaction having attained a considerable height, before the opportunity was afforded for using the application: in addition to which, the cautious and sparing manner in which it was used, necessarily limited its effects materially; however, they were sufficiently evident to encourage further trials and warrant its safety.

Shortly after this, a case of variola discreta occurred in the Hospital, accompanied with considerable fever and delirium; the patient said he never had been vaccinated; the eruption was profuse but distinct. The tincture was applied over the whole face daily from the first day, for about five or six days. The pustules went through their regular stages, but did not accumulate, remaining flat: and the face did not swell. The thin crusts on the face fell off at about the end of a week, leaving it free from any pitting. The pustules over the rest of the body filled well, and formed thick scabs, which remained several days longer—one of the hands was also painted to show the contrast, and had a very satisfactory result.

The third case was one of variola modificata; in this case the face was at first only partially painted (as was also one hand) to show a contrast; the good effects were soon evident, and the application was then extended over the rest of the face, to prevent any risk of pitting, as the patient was a good-looking young woman; on the parts most frequently painted, the eruption scarcely formed any pus, and the crusts were very thin and soon fell off, leaving the parts free even from discoloration, rendering them for some time distinguishable from the others.

The last case that I shall notice, is most particularly satisfactory; not only from its issue, but also from its being under the care of Dr. G. W. Campbell of this city, with whom I frequently visited it. The violence of the febrile symptoms, and extent of the eruption, led Dr. Campbell to suppose, that it would prove a confluent case. He ordered the tincture to be applied over the whole face, and on visiting the patient next day, was so pleased with the result, that he directed its application to be made daily; the pustules on the face, although they went through their regular stages, remained flat and small; the face remained free from tumefaction, with the exception of one of the eyelids which was slightly puffed. She had no delirium after the application of the tincture; the crusts, which were very slight on the face, fell off early, leaving it free from pitting, while extensive thick and continuous scabs covered the limbs, and principal parts of the body; and which confined her to bed many days after those on the face had fallen off, giving her a great deal of uneasiness and discomfort. Throughout her complaint, she said her face was her only tolerable part, and although the tincture gave her pain for about an hour after its application, it quite removed the variolous pain and itching, and left her so far comfortable during the rest of the day.

Very little constitutional treatment was resorted to in any of these cases; which have been seen by several members of the profession.

I have heard that some of my medical brethren have been following up the above suggestion, and I learn the application has given satisfaction; my object, however, not being for the purpose of recording cases, but rather to offer a hint generally to the profession; that the application may be fully and fairly tested, I have preferred giving merely my own personal experience on the present occasion.

I believe almost every one will admit the inefficacy of the several applications hitherto recommended, for the above contemplated object, as well as the disagreeable nature of most of them, or the difficulty of their application. The tincture of iodine will be found, I apprehend, not only more efficacious, but also more manageable and endurable by the patient; I am of opinion that the advantages derivable from its use, will in a great measure depend on its employment in the earliest stages of the eruption, and

its steady and daily repetition,—by which means the inflammatory action is moderated, and thereby the destruction of the cutis vera, and subcutaneous cellular substance, and consequent pitting prevented; and also from the relief it affords to the itching, preventing the involuntary scratching and tearing, so frequently a cause of great evil; how far it may be judicious to make a more extended application of the remedy over the body, I am not prepared to say: from what I have witnessed, I feel favorably disposed to it.

I shall trespass a moment longer, to notice an observation which has been made to me on one or two occasions, namely, "are we not likely, by an interference with the progress of a specific disease, to repel a morbid poison on the system, which nature appears to be endeavoring to throw off?" Without attempting any refutation of this antiquated view of the pathology of the disease, I shall merely notice, that the regular progress of the eruption is not interfered with, that the moderating of the inflammatory symptoms, by this application, renders the disease milder, and it is evident that whatever tends to effect this object, without depressing the vital powers, will be the surest means of saving the life of the patient, and of obviating the other dreaded consequences. I am, Gentlemen, your obedient servant,

JAMES CRAWFORD, M. D.

Montreal, March 15, 1844.

## SURGERY.

### ON PARACENTESIS THORACIS.

By H. M. HUGHES, M. D., Assistant Physician to Guy's Hospital.

[Pleuritic effusion, without very careful examination, is very liable to be mistaken; its progress is often so insidious, and its symptoms so latent, it may, and frequently is, confounded with consumption, liver disease, or indigestion. Whatever merit is due to the proposer of the operation, whoever he may be, it is the late Dr. Thomas Davis, who merits the praise of pointing out how the function of the lung may be restored and deformity prevented. In 1844, a paper was published in Guy's Hospital Reports by Mr. Cock and Dr. Hughes on this subject, and very soon after a paper was read before the Medico-Chirurgical Society, by Dr. Rowe, in which the operation was recommended for the same purposes. Dr. Davis was in the habit of leaving a piece of elastic catheter with a stopper in the wound, and drawing off a little fluid daily, but Dr. Rowe and Mr. Cock immediately close the wound and repeat the operation as often as is necessary. Mr. Cock and Dr. Hughes believe that the admission of air into the pleural sac is injurious, while Drs. Davis and Rowe assert that it is not attended with any bad consequences: the former assert that the admission of air keeps up the compression, to some extent, on the lung, which it is the intention of the operation to obviate. Dr. Hughes observes.]

It is with a view of withdrawing the fluid before firm adhesions have been formed, before the lung has been strongly bound down, and plastered over with a thick coating of fibrin or albuminous matter, that the operation has been recently recommended, in contradistinction to that of merely relieving urgent distress or of preventing suffocation. Until a comparatively recent period the operation, simple as it is, and harmless as it has been proved to be, had not been performed until almost every other mode of relieving the patient had been tried without effect, and the powers of the patient had become greatly exhausted. Hence it happened that the operation was not only generally unsuccessful, but was considered an affair of much importance, and of considerable danger. If operations for other complaints had been thus unreasonably delayed—if that for hernia, for example, had been almost uniformly deferred till gangrene had taken place, it may be fairly assumed that surgeons would not have had so many cases of that disease to point out as triumphs of their art.

I have never seen a single case in which, when it was performed in the manner recommended by Mr. Cock and myself, it was attended with the slightest risk, though in an earlier period of our practice I know that a case occurred in which the individual fainted, and was affected with alarming collapse, in consequence of the fluid being drawn off too rapidly through a large canula; and though one person certainly contracted an attack of bronchitis, followed by pneumonia, from exposure during operation, I believe that in most persons the "risk" of the operation is not greater, and that in many persons it is really not so great, as the risk of a prolonged mercurial course.

"That the remission of air may rekindle the inflammation" we believe, and "that its admission may convert the adhesive into the suppurative inflammation" we also believe; but we are very far from thinking that "its admission cannot be prevented." It is, indeed, a rare circumstance with us for a single bubble of air to enter the pleura—though two, three, or four pints of fluid have been withdrawn; and though in many cases the operation has been performed several times, and in one case as many as thirteen or fourteen times. In this individual air did, on two occasions, enter the pleura during the act of coughing or a sudden involuntary gasp. Air is there still, and has remained there ever since: we are, indeed, far from being certain that in this individual there may not have been a very minute communication with one or more bronchial tubes, but we have never had any evidence of the air having been absorbed, and the patient's own strong impression is, that since it first entered it has never been removed. The fluid in this case remains perfectly inodorous.

The reason why air does not necessarily enter the pleura, and the mode in which, with proper care, it can be prevented doing so, are both, I think, sufficiently evident. Unless the lung is capable of full and free expansion, we do not attempt to draw off all the effused fluid. We remove, indeed, only as much as the expanding lung and the surrounding compressed organs are capable of replacing. The opening is carefully watched, particularly during the act of inspiration and coughing; and when the stream begins to fail, the body is turned towards the punctured side, till there is at length an alternate flow and stoppage of the stream during the acts of expiration and inspiration. When this occurs we withdraw the canula—when, in fact, there exists a tendency for the external air to enter the cavity, that tendency is at once stopped by closing the aperture. Sometimes it is true that a considerable portion of fluid is thus left behind. This remaining fluid, if not absorbed, must be removed by a second operation, which is so slightly painful, and when properly and carefully performed, is so simple, and is usually the means of affording such great comfort, that I have never known a patient object to it who had once gone through the ordeal.

[On compression of the parietes of the chest and abdomen, Dr. H. says]—

Now, from having observed that an attack of coughing has often followed the exercise of this process, in consequence, as we presume, of the greater expansion of the lung which is thereby induced, we now believe, that this part of the directions may be advantageously omitted, and that it is better to take away only so much of the liquid as flows spontaneously by inclining the body. Secondly, with the view of preventing cough, arising from the too sudden expansion of the lung, and of allowing the organ gradually to accommodate itself to the enlarged space, we are now in the habit of applying a flannel bandage with moderate firmness around the chest, after the operation is completed. In reference to the operation itself, I have been accustomed to prescribe to myself certain rules and precautions, which may be, perhaps, advantageously here introduced for the direction of those who are not accustomed to see it performed:—

- 1.—It is well never to propose it without having previously inquired into the history of the case, and minutely investigating the general symptoms, as well as carefully ascertaining the physical signs.
- 2.—After this has been effected, and all the ordinary means of diagnosis have been fairly and fully brought into requisition, the trochar should never be introduced before the exploring needle has been employed for the purpose of confirming the correctness of the diagnosis previously made.
- 3.—The puncture of one side of the chest, excepting under circumstances of imminent danger, should never be made before it has been clearly ascertained that the lung of the opposite side of the chest, if not quite free from disease, is at least capable of carrying on the respiration.
- 4.—The fluid should be drawn off slowly through a small-sized canula, if the effusion is thin and serous, and through one of rather larger size if the fluid is thick and purulent.
- 5.—So much only of the fluid should be withdrawn as flows spontaneously without the admission of air.
- 6.—The escape of the fluid should be favored by an inclination of the body towards the punctured side.
- 7.—It is desirable, after the operation to support the chest with a moderately tight flannel bandage, to keep the patient in bed and desire him not to talk for a period of twenty-four hours; after which, if his complaint would not on other accounts confine him to his bed, he may leave it without inconvenience or danger. With these rules or precautions the operation may be performed, in very many cases, with great benefit; and in all cases, as far

as I am able to judge, from a pretty extensive opportunity of observing its effects, without danger.—*Med. Gaz.*, Feb. 13, 1846, p. 281.

### CASE OF AN ABSCESS IN THE NECK COMMUNICATING WITH THE AORTA BY AN ULCERATED OPENING.

By GEORGE BUSK, F. R. C. S. E., and Surgeon to the Seaman's Hospital.

The subject of the case was a woman, aged 35, who died on June 3rd, 1846. An abscess had formed in the neck anteriorly, which burst spontaneously about five months before her death, and had continued to discharge white purulent matter through a small-funnel-shaped fistulous opening in the hollow immediately above the upper edge of the sternum, and in the median line. On the morning of the 1st of June, hæmorrhage of arterial blood took place, and recurred in the evening, on the compress being removed. The blood welled up with indistinct intermissions, and was readily stayed by pressure. The hæmorrhage recurred more violently on the following afternoon, and on being stayed by compress, the cavity of the abscess became filled with blood, and then communicated the feeling of diffuse pulsation like that of an aneurism. The woman sank, and died about forty-eight hours from the first appearance of the hæmorrhage. Post mortem examination displayed a large old abscess occupying the front of the neck below the larynx, and extending behind the sternum to the right side of the arch of the aorta; and a lateral extension of it passed between the right bronchus and arteria innominata to the spine, but the bone was not diseased. The external cellular coat of the aorta, where that vessel entered into the formation of the wall of the abscess, and also of the arteria innominata, was entirely removed, and the middle fibrous tunic exposed, so that its structure was quite evident for a considerable space. In the centre of this portion of the aorta was a small lacerated opening, about a quarter of an inch in length. This opening penetrated the middle and internal tunics of the vessel, the edges of the rent were sharp, and a little ragged, and immediately around the opening, the internal surface of the aorta was slightly roughened by the deposition of lymph. A similar roughening was present on the inner surface of the arteria innominata, opposite the portion deprived of its external coat, and much thinned.

The author remarks, that the points of interest in this case appeared to be the length of time (forty-eight hours) after the commencement of the bleeding from the aorta before death was caused; the fact of the perforation of a large arterial trunk by ulcerative action proceeding from without, and the circumstance of the abscess assuming the pulsating character of an aneurismal tumour when distended with fluid blood, a character which was previously entirely wanting.

### MISCELLANEOUS.

#### THE POTATO DISEASE.

As the season approaches when the ravages of this disease generally make their appearance, it is desirable to know how far investigations already entered into, have proceeded towards the detection of the cause of such an evil, and the suggestion of a remedy. Little has yet been done on any organized plan in this country. In Europe the case has been very different. In Holland and Belgium a committee was first appointed to collect facts calculated to throw light on the nature of the disease. In one of the Dutch provinces, Groningen, a separate commission was appointed for the same purpose.

In Germany, Liebig among others has turned his attention to the potato, and has lately published some observations on its nitrogenous constituents.

A number of the French philosophers, both alone, and under the auspices of the Central Society of Agriculture, have also attended to the subject. M. Payen has lately published three or four reports containing the results of elaborate microscopic and chemical researches.

The English Government sent a commission to Ireland, of three distinguished scientific men, with directions to obtain as much information as possible on the nature and extent of the disease. In Scotland originated the most extended scheme of all. The



subject was taken up in its several branches as it is connected with botany, meteorology, entomology, and chemistry. Each branch was referred to a competent person, and the investigation is still in progress.

It is not as yet even certainly determined in what form the disease first attacks the plant. A great number of observers have considered that it is first seen in patches of dark colored fungi on the leaves, thence gradually spreading down to the tubers. Dr. Ferguson in Paris, and several others in England, think that they have detected the sporules of the fungus passing down through the stem in the ordinary circulation of sap. But there are well authenticated instances where the potato tops have remained green and flourishing, while the tubers were much diseased; it cannot therefore be said with certainty that the disease first appears as a fungus on the leaves.

All agree that the nitrogenous compounds in the tuber are affected, and to a peculiar state of these constituents, Liebig and others have referred the origin of the disease. The starch is attacked last, and often remains uninjured when the walls of the cellular tissue that enclose its globules are nearly destroyed. From potatoes which have become even offensive in their smell, perfectly good starch has been extracted. The manufacture of starch becomes of great importance in the economical disposition of the diseased potato.

The report of the Groningen commission ascribes the disease to the wetness and sudden changes of the two last years. M. Payen thinks that excessive moisture has predisposed the potato to yield to the attacks of fungi. Mr. Phillips of London has published a pamphlet in which he describes the whole thing to the same cause. These are only a few of those who advocate this view of the question. All who have experienced much rain, assign this as the cause of disease, not knowing that it has been quite as bad on dry soils and where there has been little rain. In all the west of Scotland the summer of 1845 was considered rather a dry one, and in Islay, one of the Western Islands on the Scotch coast, the streams had not been so low for many years. The potatoes were as much affected in this part of Scotland as on the east coast. These facts seem quite decisive on the subject of wetness, for one well authenticated case where the disease has occurred under circumstances that preclude the idea of its being caused by wet, renders the theory quite untenable.

It is not so easy to decide whether atmospheric influence is the cause of the disease. In order to arrive at any certain conclusion on this point, extended meteorological observations are necessary. It is a singular fact that three or four counties forming the extreme northern point of Scotland were entirely free from it; without any essential difference in their season from that of the other counties, so far as was known by ordinary observers. The overseer of Mr. Fleming of Barochan, in Renfrewshire, Scotland, lifted from one of his fields on the 5th of September last (1845) about 5 cwt. of potatoes; these were stored in the house and remained perfectly sound at the date of his writing, in the middle of winter. From the same field on the 15th of December were lifted 5 cwt. more of the same potatoes. These after being in the house two days, were tainted and decaying, as was the case before the end of September with all that were left in the field. In this instance the crisis in the change from the healthy to the diseased tuber took place between the 5th and 15th of September. If the disease had shown itself at this time simultaneously in every part of that district, this fact would go far to show that it was caused by some atmospheric influence; but the contrary was the case. In some fields it appeared as early as July, even on adjoining farms. The cause then remains still a mystery.

Of remedies a very great number have been suggested; many without due consideration.

The commissioners sent by the English government into Ireland were particularly unfortunate in this respect, for want of a little practical knowledge added to their undoubted scientific attainments. All the means of prevention that have formerly proved successful failed during the last year. An excellent method has been to change the seed every year, taking it from a high country to the lowlands, but this was found to have lost its efficacy. Gypsum, and hot slaked lime, have also been of little benefit. The greening of potatoes intended for seed, by letting them lay in the sun, has been much recommended, and on cutting up the sun burned potatoes it has been found, according to some statements, that the greened parts were never diseased. It may be well to turn attention to this subject. In former years some persons succeeded in invigorating the crop by means of certain

saline manures, and even during the last season it was thought that they were in some degree beneficial. We are not aware that any plan heretofore suggested has proved uniformly successful over any great breadth of country.

The preservation of the crop during the winter has excited the deepest interest, and here also the number of methods proposed defies enumeration. The result of all the trials seems to be that the disease makes very slow progress, and in many instances none at all, when the potatoes are kept *perfectly dry and well ventilated*. Both of these conditions seem absolutely essential; packing them in dry absorbent earth, and even in charcoal has proved a signal failure. It is necessary in any case where the disease has made much progress to pick over the heaps frequently, and carefully select all the affected tubers. Kiln drying has been resorted to in cases of extremity; this preserves the potato for food but of course destroys its vitality.

Of the various plans proposed for the planting of potatoes in spring, none has been found more efficacious than cutting carefully selected potatoes into sets, containing each two or three healthy eyes. These sets are sprinkled with sulphuric or hydrochloric acid, diluted in the proportion of one pound of acid to four gallons of water. Newly slaked lime, or gypsum is then added so as to form a crust over the cut surface.

The diseased potatoes have not been found injurious as food. In Scotland all kinds of domestic animals have been fed with them freely, and actually thrived upon them. We have in the present communication glanced merely at the principal points of interest hitherto touched, in the researches upon this subject; it is much to know which are false theories, even if we have made little positive advance.

Professor Johnston in a late communication has informed us that from attentive consideration of the analyses of diseased and healthy potatoes made in his laboratory during the past year, he has been led to recommend the application of a certain manure to the potato crop, as calculated, in many cases, if not universally, to arrest the disease. He does not speak of this with confidence, but as a thing yet to be tried. The publication containing his paper has not yet reached us, and we are consequently unable to say more.

We are forced to conclude that the origin and causes of this disease are at present unknown; its mysterious marks have appeared suddenly on two continents, separated by wide oceans; under heat and drought, rain and cold, on wet and dry, light and heavy soils, at every elevation, and in every variety of potato. Those who have most carefully investigated its peculiarities, most widely examined its range, are most undecided as to its cause.

Only by a very long and extended series of experiments, by an accumulation of accurate results, can we hope to arrive at a solution of this mysterious problem. No subject of the present day offers more attractions to a scientific man, or a wider field of usefulness. The very existence of a crop of incalculable importance seems at stake; practice has entirely failed in its efforts to correct the evil, and looks to science for that aid, which, if within the limits of possibility, should be afforded. J. P. N.

—American Journal of Science and Arts.

## CHEMISTRY, MATERIA MEDICA, &c.

### MURIATE OF ZINC IN THE PRESERVATION OF SUBJECTS, &c., FOR DISSECTION.

Allusion has already been made to the employment of this substance, as well as sulphite of soda, p. 343 of this volume. It answers perfectly well alone, as we are enabled to speak from some little experience in the matter. In the London Medical Gazette, (Ap., 1846, p. 663,) there are a number of certificates, speaking in the highest terms of the use of this substance in disinfecting subjects for dissection, by injecting a solution of it into the vessels, and occasionally applying it externally with a sponge. It costs but a few cents to prepare a subject in this way, and the preparation has no corrosive effects upon the knife and other instruments. It is peculiarly well adapted to dissections during the warm months; and in the *Ecole Pratique*, at Paris, all the subjects are said to be prepared in this way with great practical benefit. A very ready way of preparing the mixture is as follows. Take the ordinary muriatic acid of commerce, dilute it with its weight of water, and pour it upon fragments of sheet zinc, placed in an earthen-ware bowl or other convenient vessel; a violent ac.



tion ensues, with an escape of hydrogen gas; allow the action to go on until it ceases; however, when the action becomes exceedingly feeble, the remaining portion of acid is most readily neutralized, by throwing in a little carbonate of zinc, the only calamine of the shops. The solution being thus made, to every pound of the zinc that has been consumed, add water enough to make three gallons, and the liquid will be in a fit state for injecting. It is even proposed to make it more dilute, but there is no doubt that the concentration alluded to above will be found most convenient. —*Southern Journal of Medicine and Pharmacy*, for July.

*Lotions for treatment of Baldness and falling out of the Hair*  
(N. Y. Journ. of Med., March, 1846, p. 277, from Wilson on Healthy Skin.)

Dr. Wilson recommends for falling out and loosening of the hair, to immerse the head in cold water, morning and night, to dry the hair thoroughly, and then brush the scalp until a warm glow is produced. In women with long hair, the scalp is to be brushed until redness and a warm glow are produced, then wet the roots of the hair with one of the following lotions: I. R. Vinegar of cantharides ʒss., Eau de Cologne ʒij., rose water ʒj., M.; or II. Eau de Cologne ʒij., tinc. cantharides ʒss., oil of nutmegs ʒss., ol. lavender, ten drops, M.; III. R. Mæzerion bark ʒj., horse-radish root ʒj., boiling distilled vinegar, Oss. Let it stand for a week and strain. If the lotion produce smarting or tenderness, the brush may be laid aside, but if no sensation is occasioned, the brushing should be resumed, and a second application of the lotion. This treatment should be practised once or twice a day, or at intervals of a few days, according to the state of the scalp; namely, if tender, less; if insensible, more frequently. The same treatment will prove successful in baldness; which, if it happen in patches, the skin should be well brushed with a soft toothbrush, dipt in distilled vinegar, morning and evening. If either of the above lotions proves too irritating to the skin, use it in smaller quantity and less frequently. No. III. may be diluted with more distilled vinegar. Oil should be used to keep the skin soft and pliant.

#### PETRIFICATION OF ANIMAL SUBSTANCES.

The Abbé Baldaconi, conservator of the Museum of Natural History of Sienna, has invented a new process for petrifying animal substances. It consists in keeping for a long time, the substance to be petrified, in a saturated solution of twelve parts of bichloruret of mercury and one or two parts of chlorhydrate of ammonia. The chlorhydrate of ammonia seems to determine the petrification; and the inventor attributes to this salt the property the solution possesses of preserving the natural colour of the organs.

M. Baldaconi has sent to the Academy of Sciences, of Paris, a dog's liver perfectly petrified, and of its natural form and colour. —*Southern Journal of Medicine and Pharmacy for Medical News*.

THE

## British American Journal.

MONTREAL, NOVEMBER 2, 1846.

### MEDICAL MEETING AT THREE-RIVERS.

The meeting of the profession, summoned for the 14th inst., at Three Rivers, has taken place, and in point of numbers we regard it a failure. Thirty-five members only were present; approbatory letters were received from twenty-six more, and publicly acknowledged, while letters of disapproval were not noticed at all (one such at least, we know was sent). Quebec furnished eleven members; and Mont-

real, the professional corps of which is strong, numbering about sixty, furnished five; "*all of whom belong to the incorporated School of Medicine.*" The comparative smallness of the meeting, when we consider the number of practitioners in the Province, may be undoubtedly ascribed to its having been called at Three Rivers. Had it taken place either at Quebec or this city, it would have been much more numerous. ly attended, and there would have been a greater amount of discussion, and possibly "less unanimity." Certainly the sense of the meeting would have been directly taken on several subjects which have been passed over in silence, and which constituted at least some of the most important items of the "project" of the delegates, as submitted in their late circular.

If we are permitted to draw an obviously plain inference from the proceedings had at the meeting of the 14th, we would conclude that, inasmuch as a part of the "first clause" only, on Dr. Bibaud's motion, was expunged, all the remaining portions of that "project," as conveyed in the circular, are to stand in full force, and form the basis of the ulterior proceedings of the "permanent committee." Again, then, comes up before us the monstrous intention of compelling all British graduates and surgeons to submit to a second degrading examination before men, many of whom have received no collegiate education whatever, and who are therefore the inferiors of the former class, in point of professional rank, involving, moreover, the palpable absurdity of testing the professional competency of men, who have proved themselves well qualified to practice, by their obtention of the honours of the highest medical institutions existing in the world. Against such an intention we emphatically protest, and we seriously warn the profession at large of the rock upon which its honourable distinctions are likely to be wrecked. Ambition must be curbed, when to secure its object, it sports with, and would degrade, the honours of the profession. To use the strong language of a talented correspondent, "*the avowed object of the project is to place the profession upon a more sound and respectable footing, but the real one, however cunningly disguised, is to strike at the root of the sound and British educational establishments, and by elective majorities to get the licensing powers into the hands of the ambitious leaders of the scheme, and thus give to their colleges and institutions an undue and unfair importance among students, who must ultimately (should they succeed) come before them.*" We have already, in an editorial article in our May number, denounced the pretensions of the "School of Me-

dicine" of this city, as injurious to the best interests of the profession. Had that body and its supporters been as anxious to consult the interests of the profession at large, as to advance their own views of aggrandizement, the profession would *now* have been placed under efficient legislative protection; its *not being* so is wholly ascribable to the opposition which the medical bill encountered from *them*, in consequence of its denegation to the schools of medicine of the privilege of conferring *ad practicum* diplomas, a principle, the admission of which they sought to obtain. We are bold to say, that had that principle been conceded, *the Medical Bill would have encountered no opposition*. It is proper that the profession should be made acquainted with *the cause* of the fate of the bill; the *nature* of the opposition it received, and the *source* whence it emanated.

We have already remarked, that against the principle of a measure like that proposed, we have no objections to urge; the restrictive clauses have been by the meeting of the 14th removed; the fellowship is done away with, and the council to consist of thirty-six members is to be elective. If the formation of a college is deemed by the profession expedient, the mode of election by the profession at large to the governing council is undoubtedly the fairest and the best that could be devised. But no matter who they are who may be elected to compose it, to whatsoever *party* they may belong, we consider that the delegation of *unlimited* power, (as intended to be prayed for in the 6th resolution,) to such a body, highly objectionable, even admitting that such powers would be conferred by the Legislature, which is more than doubtful. We have not been in the *secrets* of the "delegates," still less are we likely to be in those of the "permanent committee," but we may safely venture the prediction, that unless the intention be *clearly* defined, unless the views of the committee be unequivocally expressed, the measure will become abortive. There must be no doubts in the way, no difficulties to surmount. It must be essentially *British*, that is, *honest*. It must be protective of the rights of *all* parties; it must subserve no selfish ends, and to render an equal amount of justice to all parties who may become influenced by it, it must be based on the truest dictates of liberality. On such, and such grounds only, will it meet with the sanction of the profession generally.

Pursuant to public advertisement, a general meeting of the members of the Medical Profession, resident in Canada East, was held at Three Rivers on Wednesday, the 14th instant. There were present:—

Doctors Blanchet, Edd. Rousseau, Poinchaud, R. H. Russell, James L. Hall, Wolff, Jackson, Thos. McGrath, Pre. G. Tourangeau, C. Fremont, and Morin, from Quebec; Doctors Von Iffland, St. Michel, Yamaska; Frs. Fortier, St. Michel, Belle Chasse;

Colvin Alexander and S. Bourgeois, St. Gregorie; Ed. Poisson, Batiscan; Hy. Carter and Nery Goin, St. Anne de la Perade; D. S. Marquis, St. Anne La Pocatiere; Louis Tremble, St. Roch des Alouettes; H. P. Ouellet, St. Louis de Lotbiniere; Thos. Fortier, Gentilly; Ovide Rousseau, Nicolet; Charles Maillot, Pointe du Lac; Andre Fournier, St. Pierre les Becquets; Doctors Badeau and Gilmour, Three Rivers; Doctor Kimber, Chambly; Doctor Valois, Pointe Claire; Guill. Poisson, L'Assomption; Doctors Nelson, Bibaud, Badgley, Regnier, and Arnoldi, Jr., Montreal.

The meeting began to organize itself at half-past 10 a. m., by unanimously calling the senior member present, Dr. Nelson, to the chair, and Dr. Gilmour as Vice-President. Drs. Arnoldi, Jr., and Fremont were requested to act as Secretaries.

The President opened the meeting by stating in a very concise manner the object for which it had been called. He then requested the Secretary to the convention of District delegates to read its Report, which was accordingly done.

This Report informed the meeting of the particulars connected with the fate of the two Medical Bills which Attorney General Smith had introduced to the two last Sessions of Parliament, the special difference between the second and the first, and the circumstance of the Medical Profession of Upper Canada having Resolved on petitioning the ensuing Legislature for an Act of Incorporation. That consequently the Delegates when they sat in convention at Quebec on the 5th September last, abandoned the idea of pushing any further for a Medical Bill, and to co-operate with the Upper Canadians in trying to obtain for Lower Canada a similar Act of Incorporation, and the following preliminary Resolutions unanimously passed:—

"That the Report of the District delegates, as read, be adopted, that the cordial thanks of the Medical Profession have been earned by those gentlemen for the ability and zeal displayed by them in the discharge of the duties confided to them, and that the said delegates be now relieved from their charge.

It was then moved by Dr. Badgley, seconded by Dr. Thomas Fortier:

1. That this meeting, while it deeply deploras the inadequacy of the existing laws, for regulating the Medical Profession in this section of the Province of Canada, both as regards the education of intending members, or the protection of those duly licensed to practice the same, congratulates itself on the feeling manifested on the present occasion, to devise ways and means by which such difficulties may be obviated, and the Profession of Medicine made to assume that position to which it is entitled among the other learned professions. Carried unanimously.

A division then took place on the project as contained in the printed circular, which is as follows:

That a Petition be presented to the Legislature at its ensuing session, signed by all the members of the Medical Profession, resident in Canada East, whose Provincial Licenses bear date at least twenty years, and who may feel disposed to become parties to it; based upon the inadequacy of the existing laws to regulate the practice of Medicine, Surgery and Midwifery, in this section of the Province: to establish a certain and fixed course of study previously to obtaining license to practice these branches; and to regulate druggists and others vending or distributing medicines by retail. It shall pray for the repeal of all the existing acts or portions of acts referring to these subjects; and it shall further pray for an Act of Incorporation, by which the persons, whose names are appended to the said petition, shall be embodied and incorporated into a College, to be styled, "The College of Physicians and Surgeons of Canada East," and that the said persons constitute the original Corporation of the said College.

When, after a few interchanges of sentiment, it was moved by Dr. Bibaud, seconded by Dr. J. C. Hall:

2. That the words in the first clause, "Whose Provincial Licenses bear date at least 20 years, and" be struck out. Carried unanimously.

Moved by Dr. Russell, seconded by Dr. Jackson:

3. That the governing body or council of the College, do consist of all such members of the Corporation, as hold qualifications to practice of not less than 15 years date, and who shall have resided in the province not less than 5 years.

The period of 15 years, gave rise to some discussion, after which it was moved in amendment by Dr. Rousseau, seconded by Dr. Marquis, that the governing body or council of the college shall be elective; that all members of the College shall have a right to vote, and that the council so elected, shall be from among members in actual practice, whose licenses bear date not less than

seven years, and who shall have resided in the province not less than five years.

This amendment was carried by a very large majority.

Moved by Dr. Tourangeau, seconded by Dr. Malhiot :

4. That the number of the Council shall be 36; 15 of whom shall represent the districts of Quebec and Gaspé; 15 the districts of Montreal and St. Francis, (the whole Eastern Townships), and 6 the district of Three Rivers—that one-third of the representatives of each district shall retire by rotation at the expiration of every three years, when a general election shall take place to fill up the vacancies—the members retiring being re-eligible. Carried unanimously.

Moved by Dr. A. Fournier, seconded by Dr. Wolff :

5. That the Corporation shall meet every third year alternately at Montreal, Quebec, and Three Rivers, for the election of the Council, and that the first meeting be summoned for Montreal by the senior member who shall have signed the petition to the Legislature, immediately after the Act of Incorporation shall have been obtained. Carried unanimously.

Moved by Dr. Russell, seconded by Dr. Poisson :

6. That the Corporation of the said College be invested with all the usual powers and privileges granted to other corporate bodies, in regard to holding landed and other property, making bye laws, having a common seal, &c. &c. That power be granted to the Corporation to legislate in all matters affecting the Medical Profession, whether in reference to education, practice, the protection of its members from inroads of unlicensed practitioners, the regulation of the practice of midwifery, the supervision of druggists' establishments, and the protection of the public health, in regard to Medical Police and Hygiene. Carried unanimously.

Moved by Dr. Blanchet, seconded by Dr. Ouellet :

7. That a permanent committee of nine be appointed to superintend all matters connected with the presentation of the Petition, by correspondence or otherwise, and that it be authorized to use all the necessary means for carrying the measure through Parliament; and that the said Committee consist of Drs. Morin, Blanchet, and Painchaud, for Quebec; Drs. Valois, Arnoldi, and Badgley, for Montreal; and Drs. You Island, Gilmour, and Badoaux, for Three Rivers. Carried unanimously.

The last Resolution closing the business of the day, Dr. Nelson addressed the meeting in a few words, thanking them for the unanimity which had prevailed throughout the proceedings of the day; expressed his delight at the courteous manner in which even differences of opinion had been arranged, and congratulated it on the happy issue, which, he doubted not, would be the result of such unanimous co-operation. He begged to return his warmest thanks for the very handsome manner in which the Districts of Quebec and Three Rivers were there represented, and then vacated the chair. Whereupon Dr. Morin was called on to take his place, when it was moved by Dr. Thos. Fortier, seconded by Dr. Painchaud :

8. That the thanks of this meeting are eminently due, and are hereby given to Drs. Nelson and Gilmour for their very able and impartial conduct in the chair this day, and to Drs. Arnoldi and Fremont, for the efficient manner in which they have discharged the duties of Secretaries at this meeting.

Dr. Arnoldi was put in possession, by Dr. Painchaud, of letters from the following members of the profession, who regretted their unavoidable absence from the meeting, but who approved entirely and cordially of the general principles of the project :—

Doctors A. Thos. Michaud and Thos. Horvath, Kamouraska; Dr. J. Clarke, Chateau Richer; Drs. P. M. Bardy and S. P. F. Vincent, Malbaie; Drs. C. Couillard and L. F. Chaperon, Pte. Lévi; Dr. Grenier, Lotbinière; Drs. Paradis and Larue, Saint Augustin; Dr. Belleau, St. Michel; and Dr. J. E. Lindsay, John Racy, James A. Sewell, Remi Cayer, M. de Salles LaTerrière, M.F.P., Louis J. Roy, P. P. Hubert, Seguin, Larue, P. Baillargeon, John Rowly, Jos. Parent, M. R. C. S. L., J. B. Blais, J. Z. Nault, Douglas, of Quebec.

W. NELSON, President.  
W. A. R. GILMOUR, V. President.  
F. C. T. ARNOLDI, } Secretaries.  
C. FARMONT, }

—Montreal Herald, October 21, 1846.

## FRUITS OF FREE DISCUSSION.

We insert the following letter *officially* received. We are sorry that Dr. Painchaud has taken offence at the open avowal of our sentiments on the College question. We regret it the more, as the object of the letter savours strongly of an attempt to proscribe *in toto* all discussion on the subject, by putting down the Journal which has so far successfully combated the pretensions of the party with which Dr. Painchaud acts. We think there are few who will not smile at the splenetic exhibition of the author. Whenever measures, *proposed ostensibly for the general good of the profession*, are tainted by party views and party feeling, at whatever sacrifice it may be, this Journal will denounce them.

Quebec, 7th Oct., 1846.

Monsieur,—Je viens de recevoir et de lire votre Journal Medical, &c., pour Octobre 1846, et desuite, je me décide a vous informer que je cesse d'y souscrire—je suis pret, a payer ce que je dois, a la première demande.

J'ai l'honneur d'être Monsieur,

Votre obeissant serviteur,

JOS. PAINCHAUD.

Archibald Hall, M.D., Editeur du "Journal  
of Medical and Physical Science." }

## ROUGH DRAFT OF A PROPOSED BILL TO INCORPORATE THE PROFESSION OF UPPER CANADA.

Below will be found the details of the measure proposed to incorporate the profession of Upper Canada. Several of the clauses are still *en deliberé*, but it will serve to exhibit what our Upper Canadian brethren are about on this subject. We think that a measure of the kind will prove acceptable to the profession at large, and that there will be found few dissentient voices against it. It will bear a favorable comparison with the one proposed for this section of the province.

I. Whereas, the present medical act having been found inefficient for regulating the practice of the medical profession, and for the prevention of persons practising without license, it is expedient that the same be repealed, and measures be enacted better calculated to raise the character and standing of the profession, and place it upon the respectable footing that a liberal profession should occupy.

II. And whereas for the full attainment of this object, it is necessary that the profession should have the power of framing bye-laws and statutes for its government.

III. It is desirable that the following licensed practitioners

be incorporated as the College of Physicians and Surgeons of Upper Canada, and that all practitioners already duly licensed according to the existing laws of this province, who may be willing and desirous of joining, shall likewise be members of said college. That the said college shall possess general corporate powers, hold real estate, etc.

IV. That the corporation shall be governed by a council, consisting of not less than thirty-six members, one-third of whom shall be permanent, and resident in Toronto; the other two-thirds to be elective, one half of whom shall retire from office at the end of every three years. This governing body shall be styled the Council of the College of Physicians and Surgeons of Upper Canada, and shall have the power of making rules and ordinances for the regulation of all matters relating to the corporation, and altering the same from time to time as they may deem expedient. The individuals comprising this body may be re-elected,

provided always that such laws and ordinances are not at variance with the statutes of the province.

And provided always that the said council shall not have any authority, nor attempt to exercise any authority over such practitioners already duly licensed, who may not be disposed to become or continue members of the college. And provided always that no law or ordinance shall be binding upon members of the college until it shall have been published days in the Gazette.

V. That the members of the college in each district throughout the province of Upper Canada, and of the following towns corporate, namely, Kingston, Cobourg, Hamilton and London, shall periodically elect one member to represent them in the council, who shall have all the privileges enjoyed by the members of the council, with the additional privilege of voting, by proxy, for the election of officers, and for the making and altering of bye-laws, statutes, rules, and regulations, on forwarding his vote to the secretary.

VI. That whenever, from deaths, resignations and other causes the number of permanent councillors shall be less than twelve, it shall be incumbent on the council, on penalty of forfeiting their privileges, to elect at their next meeting as many councillors as may be sufficient to fill the vacancy. Members of council thus elected from among the members of the college, shall enjoy the same privileges as the other members of the council.

VII. That the council shall, every three years, elect a president and vice-president from amongst their body, and shall likewise appoint every three years from amongst themselves a board of examiners, and such other officers as they may deem fit. These officers to be paid from the fees for licences and other sources, in such proportion as the council may hereafter determine. Provided always that it shall be in the power of the council to remove any of these officers, at any time, for gross neglect of duty, and proceed at once to elect others in their place.

VIII. That upon and after the passing of this act, it shall not be lawful for any person to practise physic, surgery, or midwifery, until he shall first have obtained a license so to do under the seal of the college, unless he shall, previously to the passing of this act, have been duly and lawfully licensed by the administrator of this province; or unless he shall hold a diploma or degree from any of the universities or colleges hereinafter mentioned, by virtue of which he is entitled to, and has obtained a license in accordance with this act. Provided always that it shall and may be lawful for physicians and surgeons in her majesty's naval and military service to practise in consultation, but not otherwise, \* "except at such posts as may be deprived of the advantage of a civil practitioner," and also all persons holding diplomas or degrees from any of the colleges hereinafter mentioned, and by virtue of such, entitled to, and having obtained a license in accordance with this act.

IX. That the course of study to be pursued, examination to be undergone by candidates, and fees to be paid for said licenses, be regulated by statutes hereafter to be framed by the council, provided always that such fees shall not together exceed £10 currency.

X. That any person hereafter practising physic, etc., not licensed as aforesaid, shall, upon conviction before one justice of the peace, on oath of one credible witness, be fined for each offence in the sum of £5 currency. In default of payment, distress warrant shall be issued, and if no sufficient distress, the offender shall be committed to jail for 30 days, unless the fine and costs be paid before the expiration of that time.

XI. That no person at present duly licensed to practise physic, etc., shall be privileged to become or continue a member of the college, unless he shall conform to the rules of the college, and pay an annual fee of not less than

XII. That upon application of any person producing a license or diploma, from any chartered university in her majesty's dominions, or from any chartered college or faculty of physicians or surgeons in the United Kingdom, or a commission or warrant as physician or surgeon in her majesty's naval or military service, and giving full and satisfactory proof that he is the party named in the said commission or warrant, it shall be incumbent on the council to grant such applicant a license to practise physic, surgery, and midwifery, on paying the fee of £1 as heretofore required.

XIII. That it shall be the duty of the proper law officer of the

province, upon receiving information from the council, to prosecute any person who shall exhibit a forged diploma or license, or who shall falsely state himself to be the party named in any diploma or license; and upon conviction such person shall be fined in the sum of £500 currency, and, in default of payment, imprisoned in the provincial penitentiary for two years, unless the fine and costs be paid before the expiration of such term.

XIV. That from and after the passing of this act, it shall not be lawful for any female to practise midwifery for hire in any town where there are resident licensed practitioners in actual practice, nor in any township where there are licensed practitioners in actual practice, unless such female shall first have obtained a license so to do, under seal of the college, for which license she shall pay £ currency.

[The original XIV relates to the supervision of apothecaries, which is under discussion.]

XV. That all fines and penalties levied and collected under this act, shall be paid within days, into the hands of the proper officer appointed by the council to receive the same, to be appropriated for the use and benefit of the college, in such manner as the council may deem fit.

## CORRESPONDENCE.

We insert the two following letters which were elicited by an article contained in our last number. "Medicus" must be highly gratified at the result of the meeting of the Profession at Three Rivers, at which the sentiments on the subject of the restrictive clauses entertained by ourselves, as far as expressed, have received a preference to those held by him.—According to the views of Medicus, the proceedings at Three Rivers, must be deemed very "illiberal." "Medicus" was at the meeting—why was the promise contained in his letter not fulfilled? The profession however can now judge between us.

To the Editor of the Pilot and Journal of Commerce.

SIR,—The perusal of the leading article in the Oct. number of the British American Journal of Medicine just circulated, has fully convinced me, as I feel persuaded it will not fail to do all those members of the Profession who read it with attention, that a spirit of indomitable peevishness on the one hand, and a clinging desire to put down any thing liberal on the other, actuated the Editors of that Journal, when commenting upon the proposed scheme for establishing a College of Physicians and Surgeons in Canada East.

Instead of calmly and dispassionately examining the suggestions, (for mark, Mr. Editor, they are but suggestions,) which have been submitted for the approval or modification of the Profession in general, by the delegates who met at Quebec on the 5th ultimo, and which they have caused to be forwarded in the form of a circular to every licensed Practitioner, whose name and address could be obtained in Canada East, with a view to obtain the assistance and co-operation of every individual interested in the matter; instead of canvassing in a liberal manner the spirit and not the letter of those propositions, offering such alterations and amendments as they might have judged advisable, and recommending their readers to give to every clause of the proposed scheme that anxious and scrutinizing attention, that should qualify them to lend their aid at the meeting of 14th inst., divesting their minds of all bias, whether of nationality, politics, or professional party spirit; instead of acting thus, they at once denounce the "scheme as

\* This clause is under consideration.

*lamentably wanting in all the requisites to render it worthy of consideration,"* they proclaim it to be an "*insult to the graduates of British Universities and licentiates of British Colleges of Surgeons;*" they unfurl the banner of suspicion, jealousy and hatred against their confreres of French Canadian origin; and finally, they throw a lance against all those who having already successfully established rival Medical Schools to that with which they happen to be themselves connected, or who may hereafter have energy to do the same thing, shall presume to feel an interest in the course of education required for initiation into the Medical Profession: Verily the modesty of these gentlemen is killing!

But who are the individuals, who have dared to promulgate "*a scheme by which the interests of the Profession will be controlled by a few parties to whose caprice the Profession generally must submit?*" I have reason to know that some of the most influential, liberal, and deservedly respected (both social and professionally) members of the Profession at Quebec, are to be found among the culprits; all belonging to the Incorporated School of Medicine; all of them entrusted with the charge of the Eleemosynary Institutions; some of them having charge of the Lunatic Asylum of this section of the Province; all of them members of the Medical Board for the District of Quebec; and two of them connected by family ties with one of the Editors above alluded to and one of his College confreres—so much for the promoters of the project.

Allow me now to point out to your readers the grounds upon which these virulent denunciations have been based. They will then be in a position to judge how far the conductors of that journal are disposed "*to treat every subject of medical polity with a single eye to the general good of the profession, and not of particular parties in it,*" or how far "*the true interests of the profession*" are likely to be subserved while these gentlemen continue to brandish a lighted torch of jealousy and hatred among those members of the profession who do not happen to be connected with their institution, or to take part in the political sentiments or their ideas of medical reform—They protest against—

1. The mode of constituting the Corporation.
2. The admission of Fellows and Members by election.
3. The subjecting of such *Members* as possess licenses of not less than 7 years and under 15 years to examination for the Fellowship.
4. The curriculum enjoined in the 9th suggestion as necessary for obtaining license to practice and consequently for Membership.

Now, while they admit "that every Corporation must have a beginning, and that it is a matter of little consequence who and what they are who are in the outset to constitute that Corporation," they in the next breath declare that an invidious distinction is drawn in selecting as the petitioners to Parliament and the subsequent body corporate all those gentlemen, without reference to religion, nation, party or politics, who have been in practice at least 20 years. Could a more satisfactory plan have been adopted, I would ask, to do away entirely with party spirit or jealousy?—to prevent him who was not a member of one of the Societies, or of one of the Medical Schools in this section of the Province, from

feeling that his neighbour, differently circumstanced, was made to assume a position different to his own? But further, what was the result of adopting a different mode in the case of the bill brought forward during the last session by the Hon. Mr. Sherwood for Canada West, and according to which the members of the Toronto Medico-Chirurgical Society were to have formed the body corporate? Why, the bill was threatened with such opposition at its second reading that Mr. S. very wisely withdrew it, that it might be made to assume a different shape. Let those gentlemen learn, too, that the present plan, when proposed to that hon. gentleman, met with his approbation.

The Editors of the British American Journal complain of Members and Fellows being admitted by election; of there being two classes at all, seeing that it is proposed by our friends at Toronto to open wide their doors to "all who are already duly licensed, and who may be desirous or willing to join," and that they shall become members. Now this year's scheme of our Toronto friends differs from that of last year, in recognizing but one class—*Members*; and how do they constitute their governing body? By the election of 36 members, who shall be styled "The Council of the College," and who shall have the power of making and altering bye laws—(a rather more restrictive plan than that of this section of the Province yet!) But surely these gentlemen are not so ignorant as not to be aware that there is no Corporation existing in which the right of exercising his own discretion is not possessed by every member of that body to sanction or veto the admission of a proposed new member. How were they admitted into any of the bodies of which they are members? By right? What is the recorded answer of Dr. Macmichael, when asked by the select committee of the House of Commons, in March, 1834, whether any change could be adopted to facilitate the admission of Fellows into the Royal College of Physicians of London?—"It is my opinion," says he, "that the admission into the Fellowship should be entirely in the breast of the *Fellows*, and be unfettered completely." Upon the point whether the existing Fellows would or would not exercise their vote in a manner always agreeable to the Editors of the British American Journal and their friends, it is not for me to say. I presume they would use their privilege honestly, and be much disposed to remind their calumniators of the motto of the order of the Garter—"Honi soit qui mal y pense."

With regard to the third exception, if those gentlemen will turn to the evidence just alluded to before the select Committee of the House of Commons in 1834—they will find that while examination is held to be a very unsatisfactory and uncertain means of knowing the qualification of the candidate, every one of the witnesses recommended a certain period of probation to be passed after a licentiate had commenced practice, before he should be eligible for fellowship; this varied from 5 to 10 years.

As to the fourth objection, if these gentlemen will publish in their next number the curriculum required by the London College of Surgeons, that of Dublin and Edinburgh, the Universities of London, Edinburgh, and Paris and if at these Universities and Colleges respectively, more than one course of lectures on each branch be not

demanding for obtaining degrees or diplomas—then and not before shall I feel prepared to recommend an alteration in that proposed for adoption by the College of Physicians and Surgeons of Canada East. The curriculum proposed in the suggestions, will be found to be *that which was introduced by the Honble. Mr. Attorney General Smith in his Revised Medical Bill of last year*, and which, it will scarcely be questioned, met with the sanction of the Editors of the British American Journal at that time.

Apologizing to you, Mr. Editor, for the space occupied by this communication, I would simply recommend and in perfect good faith I do it, that they should cease their harping upon national differences—from the merest trifles in the conduct and demeanour of an individual, it is generally easy to find out his whole character. The scheme to be submitted on the 14th instant, was adopted as a means of making another attempt to bring the members of the Profession in Canada East into a state of greater harmony and goodfellowship. Let the Editors of the British American Journal beware then how they attempt to increase the rupture that has existed up to within a very short time past.

I have the honor to be, Sir,  
Yours obediently.

MEDICUS.

—Pilot, October 8, 1846.

COLLEGE OF PHYSICIANS AND SURGEONS, C. E.

REPLY TO "MEDICUS."

To the Editor of the Pilot and Journal of Commerce.

MR. EDITOR,—A communication has appeared in your journal of the 8th instant, over the signature of "Medicus," animadverting on an editorial article in the last number of the British American Journal, having reference to the proposal now before the profession for the establishment of a College of Physicians and Surgeons for Canada East. As the meeting of the profession to consider that proposal is to take place on the 14th inst, thus precluding the possibility of a reply to "Medicus" in our own columns, we are constrained to request of you the favour of permitting the insertion of the following answer to that communication in your journal, feeling satisfied that, as the interests of the profession are involved in the matter under consideration, you will not deny us the privilege.

Your professional readers need not to be informed that the proposal upon which the strictures were offered was a calmly and minutely discussed one by the delegates at Quebec; that it came therefore before the profession, with at least a show of authority; and that the proposed scheme presented the best mode, in their estimation, for regulating, in a proper manner, the interests of the profession. It was clearly not our duty to propose another scheme in lieu of that one which had been just submitted; our duty consisted in canvassing the merits and demerits of the one proposed. That duty was performed. We submitted it to a critical examination, proved its working, and plainly demonstrated that with an admirable pretence of liberality to which the prefix "*pseudo*" might very properly be added, its aim and its object was the degradation of the honours of the profession, by compelling the holders of its degrees and diplomas to undergo

examinations as to their competency to engage in the practical duties of that profession, before men, many of whom were their inferiors in point of professional rank in consequence of possessing none. We repeat that the British American Journal *will* advocate, and has ever advocated, the *general* good of the profession, and not of particular parties in it. From this principle in its editorial management it will not deviate. It will as carefully protect the rights of the Licentiates of the Boards as it will those of the Graduates and Surgeons. The latter have not asserted any precedency over the former; nor is it proper that the former should over the latter. The proposed scheme is the first attempt of the kind, and the British American Journal has exposed it,—with what success remains to be seen. However displeasing the attempt has been to "Medicus," the Editors have received testimonials that it has not proved quite so unsatisfactory to others. People like not to have their *plans disconcerted*—their airy visions dissipated into nothingness; and the independence of the Journal is in nothing more clearly demonstrated than when its opinions are found in hostility with "some of the most influential, liberal and deservedly respected (both socially and professionally) members of the profession at Quebec," "two of whom are connected by family ties with one of the Editors." Ergo, says "Medicus," our opinions *ought* to coincide with theirs. We assure "Medicus" that on the principle which guides us, we beg leave to have an opinion of our own; and if we express it undisguisedly, with boldness, and *without equivocation*, there are few *honest men* who will disapprove of the procedure.

"Medicus" styles the proposed scheme "liberal." Let us test its liberality. In the first place the Fellowship of the College is to be restricted to Provincial Licentiates of twenty years' standing; Licentiates above fifteen years may be *elected* (if it suits the pleasure of the electors) upon their application; while Licentiates of from seven to fifteen years standing, are eligible for election *after examination*. This is the liberality of "Medicus" and the "Delegates." Now if "Medicus" had studied the "*spirit*" of our remarks with as scrutinizing an eye as he has their "*letter*," he would have discovered that we considered that every Licentiate, whether a Graduate or not, was entitled to the Fellowship at once. As practitioners, they are on a par. They have all the same privileges, and we see no reason why *any* should be disfranchised or debarred from such an honour, if it be one, whether their beards were of twenty years growth or less; yet this idea is considered illiberal by "Medicus."—Verily, "Medicus" has strange notions of 'liberality.'

Again—the proposal declares, that every person presenting a degree or diploma from a British University or College, shall be submitted to examination for membership or license, if the said diploma or degree be not obtained after the fulfilment of a *certain fixed course of study, which has not a parallel in any British University or College*. This clause naturally subjects every British Graduate and Surgeon to examination before a body of men, many, if not a majority, of whom are his inferiors in point of professional rank; and yet the possession of the diplomas or degree is evidence of the competency of the party holding them to engage in the active



duties of his profession! This is the liberality of "Medicus" and the "Delegates," and the "illiberality" of the Editors consists in securing to the possessors of these honours and degrees that immunity from degradation to which they would be otherwise compelled to submit. Certainly, after these two examples, the notions of "Medicus" and ourselves on the subject of "liberality" are strangely at issue. He must attach some other meaning to the term than that which it usually possesses.—Perhaps our illiberality consists in not agreeing with his opinions, or that of "some of the most respectable, &c., Physicians of Quebec, all of whom belong to the Incorporated School of Medicine, and two of whom are connected by family ties with one of the Editors and one of his College confreres." Great although the crime is, in the eyes of "Medicus," that one of the Editors thinks that the profession generally will sustain him in his ideas of liberality, although they vary from those entertained by the respectable parties alluded to.

The allusion of "Medicus," to, and the attempt to draw an analogy from, the practice of the College of Physicians, London, is a particularly unhappy one. The College of Physicians of London, has existed for several centuries; the proposed one is at present a paper one. The analogy therefore is at fault. The Profession now existing we maintain *has a right* to be present at, and to be consulted in, the formation of bye-laws of an Institution which is to govern themselves; those who come after must abide by such rules as are made in their behalf—but no attempt should be made to derogate from honours possessed by any party who may present them—emanating from British Universities and Colleges.

But "Medicus" states, if "these gentlemen will publish in their next number the curriculum required by the London College of Surgeons, that of Dublin and Edinburgh, the Universities of London, Edinburgh and Paris, and if at these Universities and Colleges respectively more than one course of lectures on each branch be not demanded for obtaining degrees or diplomas, then and not before shall I be prepared to recommend an alteration in that proposed for adoption." Why "Medicus" did not publish these respective courses of study himself in his communication, we pretend not to say. His not doing so savours somewhat of disingenuousness, to say the least; for "Medicus" evidently wishes it to be believed, that the courses of study enjoined at these several Institutions do not differ from that proposed for adoption here. To answer the call thus made on us, and which we do for the purpose of confirming the fact to which we have elsewhere given expression, that every one of these graduates and surgeons, would be compelled to undergo a second examination, and that before men, a majority of whom will not pretend to assert any scientific superiority over them, we subjoin a sketch of the courses of study enjoined by the several Institutions on candidates for their honours, observing that the limits of this communication, which is now much extended, will oblige us to restrict ourselves as much as possible.

By the Royal College of Surgeons, England, from candidates for membership, there are required three courses of Anatomy and Physiology, and Practical Anatomy; two courses of Surgery, and one of Che-

ministry, Materia Medica, Midwifery and Medicine, with Practical Instruction, &c. For the Fellowship, three of Anatomy and Physiology; two of Medicine and Clinical Medicine, Surgery and Clinical Surgery; and one of Chemistry, Materia Medica, Midwifery, Medical Jurisprudence and Comparative Anatomy, &c.

The Royal College of Surgeons, Ireland, demands three courses of Anatomy and Physiology, three of Surgery; three of Practical Anatomy; two courses of Lectures on Chemistry, and one on Materia Medica, Medicine, Midwifery, and Medical Jurisprudence, and two years' Hospital attendance, with Clinical instruction, &c.

The Royal College of Surgeons, Edinburgh, requires two courses of Anatomy; and two of Surgery, twelve months Practical Anatomy, and one course of Chemistry, Practical Chemistry, Materia Medica, Institutes of Medicine, Practice of Medicine, Clinical Medicine, Clinical Surgery, Midwifery, and Medical Jurisprudence, &c.

The University of London requires for the degree of B. M. "a course of lectures on each of four of the following subjects." Descriptive and Surgical Anatomy, General Anatomy and Physiology, Comparative Anatomy, Pathological Anatomy, Chemistry, Botany, Materia Medica, General Pathology, Therapeutics, Forensic Medicine, Hygiene, Midwifery, Surgery, and Medicine; nine months' Practical Anatomy, and one course of Practical Chemistry, &c. The degree of M.D. is subsequently obtained by *status*, conjoined with Hospital and Clinical instruction, and active practice, with attendance on two additional courses of the lectures prescribed, &c.

The University of Edinburgh requires one course of Anatomy, Chemistry, Materia Medica, Institutes, Medicine, Surgery, Midwifery, Pathology, Practical Anatomy, Clinical Medicine, Clinical Surgery, Medical Jurisprudence, Botany and Natural History, the last four in courses of at least three months, &c.

With the regulations of the University of Paris, we have nothing to do, as it is a Foreign University.

Now the proposed scheme demands, that candidates for license, presenting diplomas or degrees, shall afford evidence that such diplomas or degrees, have been obtained according to a prescribed course of study, or else they must submit to an examination. This course of study entails, two courses of Anatomy, two of Surgery, two of Medicine, two of Chemistry, two of Institutes, two of Materia Medica, two of Midwifery, &c. But to obtain his degrees or diplomas, no British graduate or surgeon has followed this course of study: the consequence is that every one of them would have to submit to the degradation of a second examination before men, some of whom have received no university education whatever, or else suffer exclusion from practising in this Province. "Medicus" terms our strong protest against such a procedure illiberal; "virulent;" and applies various other expressions, as "petulant," "peevish," to us. We assure Medicus, that our equanimity has not been in the slightest degree disturbed either by our critical examination of the proposal, or by his communication; but we now call upon Medicus, to accord to the graduates and surgeons of British Universities and Colleges those privileges which are



their due, and not to attempt to derogate from their testimonials of merit, which are, and deservedly, passports to their favourable consideration wherever the British flag unfurls its folds.

Verily, (to use the words of "Medicus,") the modesty of "Medicus" in attempting to sustain so singular a proposal, is indeed "killing!" nor less so is his new application of the words "liberal" and "illiberal!"

With an apology, Mr. Editor, for trespassing at such length on your valuable columns, which the importance of the subject can alone extenuate, we beg to subscribe ourselves,

Your obedient servants,

THE EDITORS OF THE BRITISH AMERICAN JOURNAL.

Montreal, Oct. 10, 1846.

### LETTER OF DR. ARNOLDI, JUN.

The following letter appeared in the *Times and Commercial Advertiser* immediately after our last number was published. It speaks for itself. We place it on record in order that the profession may be put in communication with all the circumstances connected with the proposed college.

TO THE MEDICAL PROFESSION OF CANADA EAST.

GENTLEMEN,—You have been invited by the Medical Delegates of the Districts of Quebec, Three Rivers, and Montreal, to be present at a general meeting of the profession, to be held at Three Rivers, on Wednesday, the 14th inst., and I trust that the importance of the measure to be then brought forward will secure the attendance of many, if not all of you. I know there are many points on which you desire to be more fully satisfied than the circular which was sent to you can explain, therefore the necessity for your attendance. The object of this meeting is of too general a character to be explained in a circular; it affects not only the private interests of the profession, but it is also connected with the social interests of the community at large. Reflect for a moment that there is now no law regulating the practice of Medicine, and that two Sessions of Parliament have passed over in fruitless attempts to obtain a Medical Bill, and, for the honour of the noble profession which you have adopted, the necessary small sacrifice of time to be at your post on the 14th cannot be a sufficient ground of excuse for your absence.

By the way, I must let you know that an error has inadvertently crept into the circular which may and must lead you to suppose that the Delegates intended excluding Old Country Practitioners. The circular says, "whose Provincial Licenses bear date at least twenty years. The word Provincial was meant to apply

to the College of Physicians and Surgeons; but Upper Canada has been and is again about to petition for a like College. The designation of "The College of Physicians and Surgeons of Canada East" has been adopted instead of Provincial Colleges, &c. &c. I beg to remind you all that the Delegates do not pretend to come before you with dictatorial resolutions. They look to you for a mature consideration, not only of the hints thrown out in the circular, but for other and more general measures. For my part, I am ready to propose or second a resolution which will admit every licentiate in the Province to become petitioners to the Legislature, and that every licentiate in the Province, of ten years, (instead of twenty years,) be the governing body. Such a resolution might, however, have to be regulated by members in each District. Other points I might now refer to, but I think it quite superfluous at present. My chief object in addressing you at present, simply being to remove any wrong impression which "Provincial Licences" might have produced on your minds, and to assure you that whether the efforts of the convention of Delegates be crowned with success or not, they wish the question to be freely and candidly considered, being morally convinced that its general purport, however it may be modified, will tend effectually to put down all petty professional jealousies, and bring us, as it were, within the bonds of brotherly affection,

I have the honour to subscribe myself,

Gentlemen,

Your most obedient servant,

FRS. C. T. ARNOLDI, M.D.

October 2, 1846.

*Notice to the Editor of the Philadelphia Medical Examiner.*—We beg to direct the attention of the Editor to the article in our Periscope, "On the Ecrotic Treatment of Small Pox;" and if, on due enquiry, the facts of the case be established, we request him to take some notice of it in his forthcoming number.

*Mortality in Montreal.*—We observe the remarks of our Boston contemporary on this subject. We assure him, however, that the nomenclature of diseases with us does not differ from that adopted in Boston or elsewhere. We have already made this subject a ground of complaint, as it mars the value of the returns for statistical purposes, except of the most general kind. The names of the diseases are according to the bye-law of the city corporation, made returnable to

the clerks of the burial grounds by the friends. The consequence is that they are seldom returned correctly. The attempt was made, we believe, to effect these returns at the hands of the city physicians, but the proposal encountered an opposition from some parties, which was as unprofessional as it was narrow-minded. We wish our Boston friend could only see the mortality returns, and we feel satisfied it would furnish food for his occasionally witty and facetious pen. What is the mode adopted in Boston and New York to secure this important object? Are the physicians in these two cities as sensitive in disclosing the mortality in their respective practices?

*Notice to Subscribers.*—We take the opportunity of reminding our subscribers of the terms of subscription to the Journal. A very large sum is due the Journal, causing a very considerable inconvenience to the publisher. We hope our friends will pay attention to this hint. The amounts due by each are mere trifles, but the gross amount forms a considerable sum, the deprivation of which becomes a serious matter.

*NOTICE TO CORRESPONDENTS.*—*Letters have been received from the following parties:—Dr. Haldane, Preston, England; Dr. Marsden, Nicolet; Dr. Sewell, Dr. Painchaud, Dr. Morrin, and Dr. Jackson, Quebec; Dr. Pyke, St. Andrews; Dr. G. Vorcy, Brantford; Dr. W. Rees, Toronto.*

*Barker's Canadian Magazine.*—Six numbers of this monthly periodical are now before the public, and we have delayed notice of it until now, with the view of ascertaining whether the merit, so conspicuous in the first and second numbers, would be sustained. Our anticipations have been fully realized. From the character of the articles to which it has given circulation, whether of the lighter and more literary kind, or the more substantial ones of a political description, this journal promises to sustain an enviable position among the periodicals of the Province. As far as editorial management is concerned, it appears to be in competent hands. It is published at Kingston, Dr. Barker being its editor.

*The People's Magazine.*—This is a new weekly journal, issuing from the press of our publisher and printer; and edited by John Dougall, Esq. Its object is the dissemination of useful knowledge, on subjects of Natural History, &c.; and is got up much in the style of Chambers' valuable journal of a similar character, for which in this Province it may be regarded as a substitute. We approve of this plan of diffusing sound information, as it affords an easy method of cheaply supplying those whose means are limited with valuable

knowledge, which would be inaccessible to them in any other shape. We wish these two Magazines all the success which the enterprises deserve.

#### BOOKS, &c., RECEIVED DURING THE MONTH.

Southern Medical and Surgical Journal. October.  
Stockton's Dental Intelligencer. October.  
American Journal of Insanity. October.  
Dublin Medical Press. September 9, 16, 23, 30.  
Provincial Medical and Surgical Journal. September 9.  
Boston Medical and Surgical Journal. Nos. 10, 11, 12, 19, 26.  
American Journal of Medical Science. October.  
Barker's Canadian Magazine.  
New York Medical and Surgical Reporter. Nos. 25 26.  
Le Journal de Quebec. October 17.  
The American Journal and Library of Dental Science.

#### MONTHLY RETURN OF SICK IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC, FROM THE 1<sup>st</sup> TO THE 31<sup>st</sup> AUGUST, 1846, INCLUSIVE.

Remained, . . . . .	101	Discharged, . . . . .	205
Since admitted, . . . . .	200	Died, . . . . .	10
Total . . . . .	301	Remaining, . . . . .	96

#### DISEASES AND INJURIES.

Febris, . . . . .	63	Hernia, with diseased Testes, . . . . .	1
Variola, . . . . .	4	Fractura, . . . . .	10
Pneumonia, . . . . .	7	Contusio, . . . . .	10
Phthisis, . . . . .	1	Subluxatio, . . . . .	2
Pericarditis, . . . . .	1	Ulcus, . . . . .	7
Gastritis, . . . . .	2	Vulnus, . . . . .	2
Rheumatismus, . . . . .	20	Ambustio, . . . . .	1
Dyspepsia, . . . . .	1	Paronychia, . . . . .	2
Dysentery, . . . . .	8	Marisca, . . . . .	1
Diarrhoea, . . . . .	20	Exostosis, . . . . .	1
Hydrops, . . . . .	2	Mercurial Disease, . . . . .	1
Amenorrhoea, . . . . .	1	Parturitio, . . . . .	4
Cephalalgia, . . . . .	3	Morbi Alieni, . . . . .	10
Delirium Tremens, . . . . .	1		
Orchitis, . . . . .	3	Total, . . . . .	206
Syphilis, . . . . .	11		

#### OPERATIONS

For Cataract, Hernia, Trephining, Amputation of Leg and many dry minor operations.

JOHN SMITH, Acting House Surgeon.

#### MONTHLY RETURN OF SICK, IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC,

From the 1<sup>st</sup>, up to the 30<sup>th</sup> SEPTEMBER, 1846.

Remained, . . . . .	86	Discharged, . . . . .	136
Since admitted, . . . . .	222	Died, . . . . .	13
Total, . . . . .	308	Remaining, . . . . .	118

#### DISEASES AND INJURIES.

Febris, . . . . .	56	Ophthalmia, . . . . .	1
Febris Intermittent, . . . . .	2	Erysipelas, . . . . .	1
Variola, . . . . .	3	Orchitis, . . . . .	3
Pneumonia, . . . . .	3	Syphilis, . . . . .	17
Bronchitis, . . . . .	4	Stone in the Bladder, . . . . .	1
Catarrhus, . . . . .	6	Hernia (strangulated), . . . . .	1
Asthma, . . . . .	1	Fractura, . . . . .	7
Hæmoptysis, . . . . .	1	Contusio, . . . . .	15
Dysentery, . . . . .	3	Ambustio, . . . . .	4
Dyarrhoea, . . . . .	17	Ulcus, . . . . .	5
Dyspepsia, . . . . .	12	Vulnus, . . . . .	3
Rheumatismus, . . . . .	25	Abcessus, . . . . .	4
Anasarca, . . . . .	1	Phlegmon, . . . . .	4
Tic Douloureux, . . . . .	1	Parturitio, . . . . .	5
Delirium Tremens, . . . . .	1	Morbi Alieni, . . . . .	13
Icterus, . . . . .	1		
Hæmaturia, . . . . .	1	Total, . . . . .	222

J. E. J. LANDRY, House Surgeon.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending SEPTEMBER 30, 1846.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3.	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upward.
EPIDEMIC OR INFECTIOUS,.....	Small Pox,.....	.	2	2	1	.	1	.	.	.	.	.	.	.	.
	Fever,.....	16	5	21	12	2	1	1	.	.	5	.	.	.	.
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Convulsions,.....	.	1	1	1	.	.	.	.	.	.	.	.	.	.
	Dentition,.....	5	8	13	3	10	.	.	.	.	.	.	.	.	.
DISEASES OF RESPIRATORY ORGANS,...	Consumption,.....	17	14	31	9	5	1	.	.	3	4	4	3	2	.
	Croup,.....	.	1	1	1	.	.	.	.	.	.	.	.	.	.
	Disease of the Heart,.....	.	1	1	.	.	.	.	.	.	.	1	.	.	.
DISEASES OF ABDOMINAL VISCERA,	Diarrhœa,.....	10	7	17	9	6	1	.	1	.	.	1	1	1	1
	Dropsy,.....	2	3	5	.	.	.	1	.	.	.	.	.	.	.
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Gangrene,.....	.	2	2	.	.	.	.	.	2	.	.	.	.	.
	Unknown,.....	8	3	11	5	.	.	.	.	.	3	.	2	1	.
	Inflammation,.....	2	4	6	1	2	.	.	.	1	1	1	.	.	.
	Still-born,.....	3	5	8	8	.	.	.	.	.	.	.	.	.	.
	Cancer,.....	.	1	1	.	.	.	.	.	.	.	1	.	.	.
	Debility,.....	6	3	9	.	.	.	.	.	.	.	.	.	6	3
	Childbirth,.....	.	1	1	.	.	.	.	.	.	.	1	.	.	.
	Drowned,.....	1	.	1	.	.	.	.	.	.	.	1	.	.	.
	Disease of Spine,.....	1	.	1	.	.	.	.	.	.	.	.	.	.	.
	Ulcer,.....	.	1	1	1	.	.	.	.	.	.	.	.	.	.
	Accidental,.....	1	.	1	.	.	1	.	.	.	.	1	.	.	.
	Rheumatism,.....	.	1	1	.	.	.	.	.	.	.	.	.	.	.
Total,.....		72	63	135	51	25	5	2	1	6	13	11	7	10	4

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR SEPTEMBER 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+73	+91	+74	+82.	29.90	29.89	30.00	29.93	W.	W.	W.	Fair	Fair	Fair
2,	" 64	" 82	" 71	" 73.	30.13	30.04	29.96	30.04	N. by E.	N.	N. E. by N.	Fair	Fair	Fair
3,	" 68	" 90	" 75	" 79.	29.89	29.84	29.82	29.85	N. E. by N.	N. E. by N.	N. E.	Rain	Fair	Rain
4,	" 66	" 86	" 74	" 76.	29.77	29.83	29.74	29.78	S. W.	S. W.	S. W.	Rain	Rain	Rain
5,	" 65	" 87	" 76	" 76.	29.84	29.85	30.04	29.91	S. W. by W.	W.	W. by N.	Rain	Rain	Cloudy
6,	" 70	" 84	" 69	" 77.	30.16	30.15	30.14	30.15	N. W.	N. W.	N. W.	Fair	Fair	Fair
7,	" 69	" 95	" 80	" 82.	30.07	29.96	29.90	29.94	W.	S. W.	S. W.	Fair	Fair	Fair
8,	" 66	" 74	" 55	" 70.	30.07	30.19	30.23	30.16	N. W.	N. W.	N. W.	Fair	Fair	Fair
9,	" 46	" 65	" 54	" 55.5	30.38	30.34	30.41	30.38	N. E.	N. E. by E.	N. E. by E.	Fair	Fair	Fair
10,	" 48	" 73	" 59	" 60.5	30.47	30.37	30.30	30.38	N. E. by E.	S. E.	S. E. E.	Fair	Fair	Fair
11,	" 60	" 81	" 70	" 70.5	30.20	30.03	29.96	30.06	S. S. E.	S. S. E.	S. S. E.	Fair	Fair	Rain
12,	" 71	" 85	" 71	" 78.	29.90	29.82	29.84	29.85	W. S. W.	W. S. W.	W. S. W.	Rain	Fair	Fair
13,	" 67	" 84	" 73	" 75.5	29.94	29.92	29.89	29.92	W.	W.	W.	Fair	Fair	Fair
14,	" 69	" 83	" 72	" 76.	29.84	29.73	29.63	29.73	W.	W.	W.	Fair	Rain	Rain
15,	" 52	" 70	" 50	" 61.	29.86	29.85	29.92	29.88	N. W. by N.	N. W. by N.	N. W. by N.	Fair	Fair	Rain
16,	" 46	" 66	" 52	" 56.	30.06	29.98	29.92	29.99	N. W.	N. W.	N. W. by W.	Fair	Fair	Fair
17,	" 57	" 74	" 61	" 65.5	29.90	29.86	29.88	29.88	W.	W.	N. W.	Fair	Fair	Fair
18,	" 54	" 68	" 45	" 61.	29.92	29.88	29.87	29.89	W. by E.	N. by E.	N. by E.	Fair	Fair	Fair
19,	" 55	" 73	" 55	" 64.	29.93	30.01	30.10	30.01	N. W.	N. W.	N. W.	Fair	Fair	Fair
20,	" 57	" 84	" 67	" 70.5	30.05	29.93	29.90	29.96	W.	W.	W. by S.	Fair	Fair	Fair
21,	" 45	" 88	" 44	" 66.5	30.05	30.19	30.16	30.13	N. E. by N.	N. E. by N.	N. E. by N.	Rain	Fair	Fair
22,	" 42	" 68	" 52	" 55.	30.20	30.18	30.09	30.16	S. W.	S. W.	S. W.	Fair	Fair	Fair
23,	" 58	" 76	" 59	" 67.	30.05	29.95	29.98	29.99	S. W.	S. W.	S. W.	Fair	Fair	Fair
24,	" 67	" 58	" 50	" 62.5	29.93	30.08	30.14	30.05	W.	N. W.	N. E.	Rain	Fair	Fair
25,	" 45	" 57	" 56	" 51.	30.12	29.82	29.43	29.79	N. E.	N. E.	N. N. E.	Fair	Rain	Rain
26,	" 44	" 63	" 48	" 53.5	29.43	29.77	29.63	29.68	W. by N.	W. by N.	W. by N.	Rain	Fair	Fair
27,	" 47	" 55	" 50	" 51.	29.77	29.76	29.78	29.77	W. N. W.	W. N. W.	W. N. W.	Rain	Th&m	Rain
28,	" 46	" 60	" 56	" 53.	30.00	30.04	30.04	30.08	W.	W.	W. by S.	Fair	Fair	Cloudy
29,	" 51	" 72	" 60	" 61.5	29.97	29.82	29.79	29.86	W. by S.	W. by S.	W. by S.	Fair	Fair	Fair
30,	" 58	" 74	" 47	" 66.	29.72	29.65	29.60	29.66	W.	W.	W.	Fair	Fair	Rain

**THERM.** } Max. Temp., +95° on the 7th.  
 } Min. " +42° " 22d.  
 Mean of the Month, +66°. 53.

**BAROMETER,** { Maximum, 30.47 Inches on the 10th.  
 { Minimum, 29.43 " " 25th & 26th  
 Mean of Month, 29.962 Inches.

MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—SEPTEMBER, 1846.  
 Latitude 43°. 39' 4. N. Longitude 79°. 21' 5. W. Elevation above Lake Ontario, 108 Feet.

Day.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1	29.620	29.578	29.627	29.615	68.9°	82.3°	70.5°	74.40	642	655	646	651	.93	.61	.89	.80	S.W.	S.W.	Calm.	Calm.	—	Unclouded. Hazy round hor. Fine.
2	29.656	29.568	29.533	29.571	69.8	80.0	73.5	74.85	660	764	684	721	.94	.77	.86	.86	E.S.E.	E.S.E.	S.W. by S.	S.W. by S.	—	Gen overcast. Light clouds and haze.
3	29.514	29.419	29.390	29.426	71.2	73.2	69.6	71.30	697	756	682	703	.94	.96	.95	.95	Calm.	S.W. by S.	S.W. by S.	Calm.	—	C'd all day. B'ng from 1 pm to midn't
4	29.403	29.321	29.371	29.3715	69.8	77.5	72.0	73.44	660	772	708	727	.94	.84	.93	.91	Calm.	S.W. by S.	S.W. by S.	Calm.	0.620	Clear'd 7'ng 1h 30m am. M'ly c'd all day
5	29.486	29.557	29.732	29.6105	73.0	77.4	65.6	71.99	744	801	585	696	.95	.88	.96	.91	S.W.	S.W.	Calm.	Calm.	0.945	Re'ng heavily fr. oh to 3h am. M'ly c'd
6	29.820	29.757	—	—	72.0	74.1	—	—	643	677	—	—	.85	.83	—	—	E. by S.	S.W. by S.	E.	—	—	Light detached clouds passing occas.
7	29.685	29.575	29.632	29.6407	70.4	83.0	71.3	74.18	700	783	643	679	.98	.71	.86	.81	Calm.	S.W. by S.	N. by E.	N. by E.	—	Thun. light, & rain 8 pm. to midn. Very
8	29.725	29.723	29.789	29.7691	64.2	69.0	59.4	62.60	459	436	271	375	.82	.63	.55	.65	N.N.W.	N. by E.	E.N.E.	E.N.E.	0.040	per'f bun. r'nhovs 8h 30m to 8h 50m pm
9	29.921	29.876	29.867	29.8919	53.0	64.8	62.4	61.20	247	299	328	310	.60	.50	.59	.59	N. E.	E. by N.	E.	E.	—	Detach c'ds till 2 pm. Rem. uncl'd.
10	29.927	29.874	29.811	29.8669	61.8	67.8	60.2	64.20	342	362	452	401	.63	.55	.88	.69	E. by S.	E.	Calm.	Calm.	—	Mostly clear. A few detached clouds.
11	29.807	29.686	29.641	29.6818	68.0	76.5	66.8	70.86	598	687	612	643	.90	.77	.97	.88	S.E. by S.	Calm.	S.	Calm.	—	Detach c'ds till 2 pm. Rem. uncl'd.
12	29.605	29.565	29.531	29.5589	72.9	72.0	62.2	69.50	729	607	513	632	.93	.80	.94	.90	Calm.	S.	Calm.	Calm.	—	M'ly c'p. Th & l'ng. Au. 11/8 to 11 pm
13	29.605	29.563	—	—	72.5	79.6	—	—	675	764	—	—	.87	.78	—	—	Calm.	S.W. by S.	N. by N.	N. by N.	0.275	Dense fog m. Th & l'ng. Au. 11/8 to 11 pm
14	29.506	29.366	29.391	29.4371	69.2	80.0	75.2	73.55	683	811	678	675	.99	.83	.80	.82	Calm.	S.W. by S.	N. by N.	N. by N.	0.275	heavy fog m. Th & l'ng. Au. 11/8 to 11 pm
15	29.665	29.674	29.714	29.7102	56.3	65.6	53.8	57.05	293	222	264	263	.66	.36	.65	.59	N. N. W.	N. N. W.	S. S. E.	S. S. E.	0.050	Fog am. Pass c'ds. Th, l'ng. r'n 2 to 6 pm
16	29.851	29.701	29.636	29.6959	50.8	65.0	58.9	59.40	320	383	384	383	.91	.64	.78	.75	N. N. W.	S. S. E.	Calm.	Calm.	—	A few c'ds to 7 am. Rem. uncl'd. Fine
17	29.571	29.506	29.463	29.4924	55.5	60.2	57.3	58.65	363	440	418	418	.84	.86	.92	.85	N. N. W.	Calm.	Calm.	Calm.	—	Uncl'd to 9 am. Det. c'ds during rem.
18	29.484	29.516	29.614	29.5715	58.1	67.0	55.4	58.99	402	489	392	412	.85	.76	.91	.84	N. by E.	S. E.	Calm.	Calm.	0.095	Gen. light in N. at 11 pm and midn't
19	29.687	29.718	29.720	29.6772	52.8	71.7	61.3	63.68	349	457	431	472	.89	.73	.82	.81	Calm.	S. S. W.	Calm.	Calm.	—	Gen. clouded. Rain from 11 am to 4 pm
20	29.696	29.560	—	—	69.6	70.5	—	—	529	610	—	—	.75	.72	—	—	S. S. W.	S. S. W.	Calm.	Calm.	—	Partially clouded till 3 pm. Rem. clear
21	29.759	29.785	29.812	29.7982	51.9	60.4	48.2	51.64	306	305	279	288	.80	.59	.84	.78	N.	N. 4 lbs.	Calm.	Calm.	0.310	Generally clear. Hazy. Fine.
22	29.848	29.740	29.730	29.7699	43.6	64.7	50.0	53.86	255	436	330	356	.91	.74	.93	.87	Calm.	Calm.	Calm.	Calm.	—	Overcast. Light c'ds. Th 1st pm. Rain
23	29.665	29.545	29.552	29.5819	53.6	72.6	64.4	64.74	389	585	561	530	.97	.75	.95	.89	Calm.	S. by W.	Calm.	Calm.	—	C'p. & uncl'd. Bril. Au. 9 pm to 2 am of 22d
24	29.641	29.629	29.752	29.6732	63.6	61.8	55.6	55.91	534	466	393	455	.94	.87	.91	.92	N.W. by N.	N.E. by N.	N.E. by N.	N.E. by N.	—	Uncl'd till 9 pm. Very fine. Frost am.
25	29.666	29.361	29.346	29.4383	50.4	57.0	51.2	51.90	336	438	333	354	.93	.97	.89	.92	N.N.E.	E.N.E.	N.W.	N.W.	0.480	Th. and l'ng most of day. Sh'ry all day
26	29.539	29.519	29.488	29.5838	46.4	60.3	51.8	51.51	283	398	337	325	.80	.78	.89	.86	Calm.	S.	Calm.	Calm.	1.570	R'ng constantly till 7h 50m pm. Oc. th.
27	29.497	29.541	—	—	54.8	55.1	—	—	334	306	—	—	.72	.72	—	—	W. S. W.	W. N. W.	Calm.	Calm.	0.070	Mostly clear. Detached clouds.
28	29.862	29.799	29.771	29.8118	41.4	59.1	52.7	53.09	225	358	319	321	.91	.73	.81	.81	Calm.	S.	Calm.	Calm.	0.140	Gen. c'd. Showery. Squall of wind at
29	29.740	29.626	29.555	29.5991	58.8	66.5	54.8	61.20	405	438	375	427	.83	.70	.90	.81	S.W. by S.	S.W. by S.	S. S. W.	S. S. W.	—	11h 50m am. 6th.
30	29.441	29.310	29.370	29.3817	60.1	67.2	62.8	62.11	445	511	439	444	.87	.79	.78	.81	S.W. by S.	S. S. W.	W. N. W.	W. N. W.	—	Uncl'd till no. Det. c'ds rem. Frost am
Mean	29.6644	29.6007	29.6092	29.6237	59.83	69.33	61.03	63.41	464	529	463	486	.88	.74	.86	.82	—	—	—	—	4.595	Clear and unclouded alternately.

The frost on 22d and 28th am was light, and only obs. on board footpaths.

Highest Barometer, 29.955 at 11 a.m. on 9th. } Range 0.709  
 Lowest do. 29.246 at 7 p.m. on 26th. }  
 Highest Temperature, 81.2° on 1st, p.m. }  
 Lowest do. 31.2° on 28th, a.m. } Range 47.0  
 Mean Daily Range, 16.2° 23 }  
 Extreme Daily Range, 27.2° 5 from 14th, pm, to 15th, am.  
 Under the head of Tension of Vapour, is given the elastic force of the aqueous vapour in the atmosphere at each observation, in decimals of an inch of mercury, or the proportion of the barometric pressure due to its presence.  
 The instruments are standard foot-cuments. The Rain Gauge is 27 inch above the soil.—The Means entered are the Means by 24 hourly observations, from 6 a.m. to 6 a.m.  
 The Observations entered in the column for 7 a.m., on Sundays, are actually taken at 9 a.m. The two observations taken on Sundays are not included in any of the means.

Temperature for September.				Rain.				Wind.			
Mean.	Max.	Min.	Range.	No. Days.	Inches.	No. Winds.	Calms	Mean force	lbs.	lbs.	lbs.
64.9°	80.2°	30.2°	43.6°	9	3.350	195	117	0.26	108	108	108
61.5°	82.6°	27.7°	54.7°	12	6.160	402	222	.46	67	67	67
55.6°	89.0°	32.2°	56.8°	10	9.760	430	204	.57	54	54	54
58.47	81.8	28.2	59.6	16	0.200	233	317	.26	34	34	34
65.91	79.6	34.0	45.6	4	6.245	395	225	.34	34	34	34
63.41	84.3	37.3	47.0	11	4.695	381	243	.33	33	33	33

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[No. 8.]

CONTRIBUTIONS TO CLINICAL MEDICINE.

BY J. CRAWFORD, M.D.,

Lecturer on Clinical Medicine and Surgery, McGill College,  
and Physician to the Montreal General Hospital.

*Case of Dropsy.*

I was called to see Mr. S., at the Exchange Coffee-House, a few months ago, at a late hour of the night. I found him lying in bed, suffering much from acute rheumatism, his right arm being quite powerless, and his left nearly so; from this cause he was scarcely able to move in bed. He had also ascites, his abdomen being much swelled, as were also his lower limbs, from anasarca. His countenance was excited and bloated, his eyes staring, and the conjunctiva blood-shot; his stomach was very irritable, and he could not retain any ingesta. He had thrown up some bilious matter, but in general the ejections were merely whatever drink he took; he had constant insatiable thirst, and was very restless, and said that he had scarcely any sleep for two nights. His pulse was small, and about 90, tongue foul.

The hurry of his manner, and his general appearance, conveyed the impression that he laboured under delirium tremens.

He stated that he was a merchant, and had lately arrived from New York for the object of superintending the sales of some merchandize, which he found the parties he had entrusted to dispose of were not doing so advantageously. He attributed his present state of excitement to the journey he had performed in his debilitated state, to his annoyance, and "last (though perhaps) not least," to having drunk too freely, since his arrival, of porter. He stated that his usual habits were temperate. His appearance, however, seemed to contradict his statement; although his recent excess in his weak state might sufficiently account for the present degree of excitement. The asomnia might also be attributable to the severity of his rheumatic pains, or it might, perhaps, with equal propriety, be supposed consequent on his irregularity. However, as neither cause counter-indicated the use of an anodyne, this remedy naturally suggested itself. A draught of solution of acetate of morphia, and tinct. hyosciamus, aa 3ss, was ordered, and

directed to be repeated every three hours, till sleep was procured.

I found him the next morning much easier, and more composed; he had passed a good night, and had slept comfortably. Although his rheumatic pains were easier, his arms were still quite powerless, and he was unable to leave his bed from the swelling of his legs. He stated that he had been many years in India, but was obliged to return to Europe in consequence of liver complaint. About six months after his return, he had so far recovered his health as to be able to resume his profession, and left England for the United States. On his passage he had a very severe attack of rheumatism, which quite deprived him of the use of his upper extremities, and had been under treatment ever since his arrival in New York. He had recovered the use of his left arm, but his right was helpless. He had lately perceived his abdomen and legs swell. His complaints, however, had all been much aggravated by his journey into Canada, which necessity had compelled him to take in his weak state; and being now very desirous to return home, he purposed only remaining until he was sufficiently able to bear the journey. The distension of the abdomen prevented a satisfactory examination of the liver. The urine was free from albumen; general debility, derangement, and loss of tone of the stomach being the most prominent symptoms. His bowels were freely moved by a dose of jalap and calomel, and the anodyne was ordered at night, as before; a liniment to be rubbed on the painful parts. Next morning, I found him still better, and more free from pain. He could move the left arm with tolerable freedom, but was obliged to carry it in a sling—the right quite powerless. He sat up for a short time, but the swelling of his legs and feet prevented him from walking. Although his eyeballs were prominent and staring, there was no appearance of delirium tremens; the conjunctiva had rather a bilious tinge; his constitution appeared quite broken down. He now admitted that, for a great many years, he had been a free liver; his illness, however, preventing him from indulging as formerly, until he took his departure from New York, since which he had been constantly toping. I ordered him a grain of sulphate of quinine three times a-day, the anodyne at night, and the liniment to be used as formerly.

Next morning, to my astonishment, he called on me, having walked up from the hotel. He stated, that during the night he had such a profuse discharge of urine that he apprehended he had got diabetes. His dropsical complaints had almost wholly disappeared. He could now use his left arm freely; his right, still powerless, was carried in a sling. From this time he rapidly recovered, under the tonic plan, and in a few days regained considerable power of his right arm, and laid aside the sling. In about a week he returned to New York much improved in health.

It is a matter of extreme difficulty on some occasions (and frequently even of impossibility), to determine what may be the exciting cause of dropsy. These are so various, and often so obscure, as wholly to be beyond the powers of our discrimination or detection. They unfortunately, too, are often beyond the control of our art, even when ascertained. It is, nevertheless, an object of great moment to determine the cause, if possible; as although many of the pathological changes upon which it may depend may be irremediable, we must, however, on all occasions endeavour to avoid injudicious application of our therapeutic means, lest we seriously aggravate the evil. It may readily be perceived how little applicable is the ordinary routine of hydragogues, diuretics, or diaphoretics on all occasions when we look to the *fons et origo mali*. The varieties of hepatic alteration so frequently inducing dropsy, the different changes of structure in the kidneys or circulatory system, an anemic condition arising from debility, or an exalted tone of the capillaries consequent on scarlatina, cannot be supposed to be amenable to a similar plan of treatment, or equally controllable by the most judicious and well-directed curative means. Induration of the liver may take place to a very considerable extent without our being able to detect it during life; and we often find accompanying that peculiar condition termed cirrhosis (which is so frequent a cause), that although there is considerable induration, there may be at the same time a diminution of its size. The attendant, dropsy, also, is an impediment to a satisfactory manipulation, and may prevent the detection of hypertrophy of this gland. Tumors or indurations of other viscera in the hypochondriac region or neighbourhood, also afford obstacles and difficulties to our arriving at a correct diagnosis. On the present occasion, we may in all probability, with propriety, attribute the dropsy to an atonic condition of the absorbents, originating in the state of debility of the general system. The fortunate issue of the case, however, precluded any post mortem examination, and at the same time proved that the dropsy did not depend on any permanent pathological cause.

Montreal, October 21, 1846.

#### POISONING BY VEGETABLE OILS.

By THOMAS REYNOLDS, M.D., Brockville, C.W.

Daily instances of the dangerous consequences of an unrestricted traffic in drugs, by persons ignorant of their medicinal powers, come within the notice of the faculty in Canada West; and it is only to be wondered at that we do not more frequently hear of fatal results from the quackery and intermeddling of the wandering horde, who, in so many ways, contrive to impose upon an ever gullible public. One smooth-tongued Yankee sends "sugar-coated pills," wondrously palatable, to the real or fancying invalid; another follows in his wake, posts up his bills or circulates his pamphlets, advertising some new "arcanum," with matchless virtues; a third exhibits some Indian panacea, prepared from some "traditionary recipe of the Lost Tribes," and possessing "all-the-maladies-that-flesh-is-heir-to"-curing properties.

I might go on to speak of the Thompsonian doctor declaiming against mineral preparations, and proclaiming the wondrous powers of "our native herbs," aided by the universally applicable process of steaming; the travelling vaccinator, daily bringing into disrepute the valuable discovery of Jenner; and others of an equally dangerous tribe; but I have, at this time, to speak of the "essence pedlar," whose wares would be innocuous enough, if confined to external application; not so, however, when internally administered, as the following cases will show; and they are but a specimen of what is constantly occurring.

M. B. came to his death under the following circumstances, as appeared at the inquest a few days ago:—An "essence pedlar" was displaying his bottles in a tavern in the town, about 4 p. m., when deceased, who was present, and had been for several days in a semi-intoxicated state, took up a bottle said to contain oil of winter green (*pyrola umbellata*), and began tasting it. He was told by the pedlar, who, by the way, was not himself quite sober, that if he took much it would certainly kill him. He replied, "The d—— himself couldn't kill me," thereupon swallowing about half an ounce. The pedlar said to the bystanders, "That much would kill me in four hours," and immediately left the tavern, offering four times the usual charge to be ferried to the south of line 45. Deceased soon began to complain of pain and uneasiness about the stomach, vomited a little, and then retired to a bed-room in the tavern, seated himself in an arm chair, and appeared for some time to be stupid and suffering pain. He was allowed to remain in this state till about 8 p. m., when, upon going to the room, one of the domestics found him dead. He was still seated in the chair, his mouth firmly compressed, and his hand grasping his stomach.



I was called upon to examine the body next morning, in conjunction with another medical man. There was a strong odour of winter green from the body; the lips were blue and compressed, and the countenance exhibited the appearance of his having suffered some pain; the abdomen was but little distended. Upon removing the stomach carefully, I proceeded to lay it open, and found about half a pint of serous fluid, with a strong odour of winter green. The villous coat of the stomach presented a highly inflamed appearance, and was in many places quite destroyed, the mouths of the vessels lying open and bare. The work of destruction extended for about two inches beyond the pylorus. At the cardiac orifice of the stomach there was every appearance of incipient gangrene. Altogether there was quite enough in the stomach to account for the man's death. His intemperate course of life had produced the usual large liver, and probably would in part account for the diseased state of the stomach. Upon diluting the contained fluid with water, the oil, which previously was not very distinguishable, rose to the surface and floated on the top. I procured a phial of essence of wintergreen, sold by the same pedlar, and diluted with water, but the oil did not separate; so that there was pretty clear evidence that the oil was the substance taken. We were of opinion that a fatal result would have been produced in a man of temperate habits, after taking such a quantity of this oil; but that in the present instance, the dissipated life of deceased had to do with the rapid termination of his existence; and the jury returned a verdict accordingly.

No 2.—A simple-minded farmer a few months ago was desired to make use of cedar oil for rheumatic pains. He was desired to rub it along the spine and to take "a little" inwardly. Supposing that if "a little" was good, a large dose would be better, and being told by the pedlar that it was quite safe, he swallowed, as near as could be ascertained by the appearance of the phial, three drachms of this oil. As might be expected, he was soon seized with violent pains in the region of the stomach, strong convulsions were produced, and it was only by prompt and energetic means that his life was saved, after evacuating the contents of the stomach, by means of an emetic and giving warm demulcent drinks. I found it necessary, from the strong symptoms of inflammation of the stomach, to draw blood from his arm, and to use topical depletion freely; and this blood, after being removed to another department, where there was no cedar oil, and where there could be no odour otherwise communicated, retained the odour quite perceptibly for several hours.

It was several weeks before the man fully recovered

from the effects of the dose; and I am quite convinced that had there been no interposition of medical aid, and that soon after the dose was taken, this poor man, as in the case of the oil of wintergreen, would have paid for his folly by terminating his existence in a few hours.

I might give you a few cases more of a similar character, but I think I have given enough to show the danger of allowing such idle vagabonds to prowl about the country, ignorant and reckless of the fatal results of their traffic.

Brockville, Nov., 1846.

#### A CASE OF ENCEPHALOID OR PANCREATIC TUMORS IN THE ENCEPHALON.

By S. C. SEWELL, M.D.,

*Lecturer on Materia Medica, University of McGill College, &c.*

John Montgomery, æt. 31, in passing by the polling-booth in St. Mary's Ward, during the municipal elections in March last, received a blow from a bludgeon on the left parietal bone, which knocked him senseless: on recovering, he with difficulty reached home, leaning on his wife's arm. He was confined to bed for two or three days with severe headache, and was slightly treated. In a week or ten days he returned to his work, but always complained of pain on the left side of his head, and a sensation as if water was trickling and gurgling through his head. About three weeks before admission to the Hospital, he complained of great weakness in the limbs, his memory became rather defective, and his consciousness impaired. He again received some little treatment, and by the advice of his medical attendant (the symptoms having gradually increased in intensity), he was removed to the Montreal General Hospital on the 22d September last. He with difficulty advanced his legs as he was supported to his bed between his wife and the orderly. I saw him one hour after admission; he was lying on his back with his arms and thighs extended laterally at right angles to the body, which was the position he maintained to the last, except when convulsive jactitation threw his body half out of the bed. The left pupil was natural; the right dilated, and the eye everted, which had not been the case in health. The tongue was slightly loaded, and the pulse little accelerated, and not otherwise remarkable. Consciousness very feeble; after a long pause, during which he seemed to be collecting his thoughts, he answered "yes" or "no," to three or four questions. He made water freely, but his bowels had not been moved for ten days. He was ordered three drops of croton oil, and to be cupped at the back of the neck.

23d. Oil had operated well; was more conscious,



answering more freely; other symptoms the same. Ordered an incision to be made along the mesial line of the scalp, and peas inserted.

24th. Consciousness gone; pulse much accelerated; both pupils dilated; when raised in bed was invariably seized with convulsions.

25th. Moribund.

*Autopsy.*—On removing the calvarium, the encephalon dilated visibly. Two tumors were observed of the size of an almond in the dura mater on each side of the longitudinal sinus over the middle lobes of the brain. They had caused absorption of the inner table and diploe of the parietal bones. On cutting into them, they were found to consist of enlarged glands of pacchioni, and vascular and fibrous tissue. On opening the great arachnoid cavity, the membrane was found to be *perfectly dry*, the surfaces adherent in many places by fibrous bands, most numerous over the left anterior lobe; dural layer was very pink from the extreme injection of the cellular tissue connecting it with the dura mater, while the pial layer presented numerous opaque patches. The convolutions of the brain were flattened. On exposing the left centrum ovale minus a tumor of the diameter of half a crown was seen in the anterior lobe; it appeared like a piece of pancreas in structure, but of a light liver colour; it was four lines in thickness; the centre was softened, and contained a very yellow pus. On cutting through the centrum ovale majus, four similar tumors of less size were ranged along the right hemisphere, two suppurating in the centre, the others entire. The substance of the brain was fluctuating over the lateral sinuses, and on opening the left one a large quantity of sparkling, limpid and colourless fluid gushed out. A tumor, of the size of a pigeon's egg, and similar to the preceding, was found adhering to the left corpus striatum. The optic thalamus of the same side fluctuating, it was opened, when abundance of pus flowed out of a bright yellow colour; the cavity was of the size and shape of the yolk of a hen's egg. On examining the sac of the abscess, portions of pancreatic tumor were found adhering to the sides, leaving no doubt in my mind that one of these tumors had been formed in the substance of the thalamus, and had been converted into pus. A similar tumor of large size was found in the left lobe of the cerebellum, and another in the substance of the left side of the pons varolii. A ramollissement of the size and shape of a large thimble was found in the right posterior lobe of the cerebrum.

I regret much that I have not been able to procure a more satisfactory account of the case previous to admission to the Hospital, or that I had not had the case

longer under my charge, in order to have watched the symptoms.

Montreal, October 27, 1846.

#### THE POTATO DISEASE.

To the Editor of the *British American Journal of Medical and Physical Science*.

SIR—As I perceive by the *Miscellaneous Department* of your valuable Journal, that you are willing to receive stray communications from even the *unprofessional and unlearned*, I beg to offer you the following desultory remarks, hinging on the rather unsatisfactory article which appeared in your last Number, "*on the Potato Disease*," in the hope of thereby drawing forth some more erudite and conclusive communication on a subject of such vast, nay, vital importance, to a large proportion of the human race.

As justly remarked in the article alluded to (which it appears you derive from the *American Journal of Science*), little has yet been done on any organized plan in America,\* but in Europe the case has been very different, for, while in Holland and Belgium committees had been appointed to collect *facts* calculated to throw light on the nature of the Potato Disease, and in Germany the celebrated Liebig, among others, had turned his attention to the subject, a number of French Philosophers, both alone and in concert with the National Central Society of Agriculture, had engaged in the same object; and the British Government had sent to Ireland a special Commission, composed of three distinguished scientific men, to obtain as much information as possible on the nature and extent of the disease; and a still more extended scheme had originated in Scotland, where the subject was taken up by competent observers, in its

\* It may be proper to note here that the same appears to be equally the case in *British North America*, at all events in Canada. Although an occasional paragraph in the public prints intimates the progressive, "rise and spread," of this unaccountable dire disease in every part of the Province; and the *Hamilton Gazette*, in particular, lately went so far as even to state that "*The rot among the Potatoes is universal, we believe, throughout the Province, and the probability is that before New-Year's Day there will not be a potato to be had in this section of the Province at least*;" and late accounts from Cobourg seem to hold out nearly the same gloomy prospects. Now that a Provincial Board of Agriculture has at last "taken root" in Upper Canada, it appears to me that that body ought immediately to originate a correspondence with the different Districts, calling for *correct* information on the subject, and that a similar step should be taken in Lower Canada, through the medium of some central influential District Society; say, that of *Montreal*; and I am sure that it could not fall into better hands than such men as its present President; and it would add not a little to the certainty of success were Mr. Edmundson, the Editor of the *British American Cultivator*, on the one hand, and Mr. Evans, the Editor of the *Canadian Agricultural Journal*, on the other, invited to act as corresponding Secretaries on this occasion.

several branches, as connected with *Botany, Meteorology, Entomology, and Chemistry*,—but whose investigations, it would seem, were still only in progress. In the mean time, in spite of those imposing, high sounding demonstrations, the awful and mysterious pestilence in question, which can only find a parallel in that dread inexplicable scourge the *Indian Cholera*, has been a second year spreading its baneful influence over both hemispheres, as if in utter derision of the laboured researches of science and philosophy! You will, perhaps, smile at this bold and somewhat ironical apostrophe; but the fact appears to be, that the complex agency of various branches of abstruse science had been imposingly brought into the field, when the patient investigations of the humble, unlettered, practical agricultural observer would, perhaps, have been more effectually employed; and hence we find a host of scientific conclusions alone arrived at, of the most puzzling and contradictory character, so much so, indeed, that it does not yet appear to be satisfactorily determined in what form the disease first attacks the plant.

Thus, for instance, while a great number of observers have considered that it is first seen in patches of dark coloured "fungus" on the leaves, thence gradually spreading down to the tubers, and think they have detected the sporules of the fungus passing down through the stem in the ordinary circulation of sap; others, on the other hand, adduce well authenticated instances where the tops, or vines, have remained green and flourishing, while the tubers were much diseased.

Again, all agree that the nitrogenous compounds in the tubers were affected; and Liebig and others have gone so far as to refer the origin of the disease to a peculiar state of these constituents; and the Dutch commissioners of Groningen, M. Payen of Paris, and Mr. Phillips of London, and many others, ascribe to the excessive moisture and sudden changes during the last two years, the predisposing of the plant to the attacks of *Fungus*; while in the West of Scotland, where the summer of 1845 was considered rather a dry one, the Potatoes were found as much affected as on the east coast, and three or four of the most Northern counties remained entirely free from the disease; at the same time that in Renfrewshire, Potatoes lifted and stored between the 5th and 15th of September remained sound, while others lifted and stored, from the same field, on the latter date, were not two days in the house before they were found tainted and decaying, as was also the case, before the end of the month, with all that were left in the field;—all facts opposed to the theory of a peculiar atmospheric influence, and thus leaving the cause as much a mystery as ever. Finding themselves baffled in their endeavours to dis-

cover the origin or cause, the different commissions, as well as many other scientific individuals, seem to have busied themselves with much earnestness, but not much greater success, in suggesting various remedies and preventives, among which were change of seed, the application of Gypsum, and hot slacked lime, and the "greening," or exposing to the Sun, of Potatoes intended for seed, and the use of saline and other manures to the growing plant. But the preservation of the stored crop during the winter naturally excited the deepest interest, and led to numberless proposed methods, among which, no doubt, were many careful experiments and arrangements actually adopted by practical agriculturists which produced very beneficial results, though the aggregate may have more or less proved utter failures.

In this dilemma, like the writer in the *American Journal*, we might be forced to conclude that the origin and causes of this disease are at present unknown, that its mysterious marks have appeared suddenly on two Continents separated by wide oceans; under heat and drought, rain and cold, on wet and dry, light and heavy soils; at every elevation, and in every variety of Potato; and that those who have most carefully investigated its peculiarities, and most widely examined its range, are most undeceived as to its cause,—had not observations been fortunately made since, to which I would now call the attention of your readers, ascribing, with every appearance of reason, if not absolute proof, the first production of the disease, (on the Potato plant), to the effects of the poisonous depredations of swarms of minute insects instead of vegetable fungi,—whatever may be the peculiar epidemic agency by which it afterwards becomes so universally disseminated; and for this interesting and important information we are chiefly indebted to that highly useful and popular, though comparatively humble, periodical, the *Gardeners' Chronicle*.\*

According to this authority, the prospects of the present (or now rather the late) Potato crop in Great Britain and Ireland, unfortunately indicate a total failure, and in proof of this he furnishes the following melancholy authenticated general view of the state of the crops in different parts of the United Kingdom, at the end of July.

*Cork*—Potatoes in every field exhibiting symptoms of disease; tubers small and discoloured.

*Cornwall*.—Crops with few exceptions, shewing disease as strong as last year; some raised from sets imported from the Azores, not yet affected.

*Devonshire*.—Every body hurrying up their early potatoes. Crops all diseased, and the failure predicted to be greater than that of last year; a sound potato hardly to be met with.

\* See also *British American Cultivator* for September and October; the intelligent patriotic Editor of which makes some excellent remarks on the subject.

*Isle of Wight.*—Disease has made its appearance, but not general.

*Mid-Lothian.*—Seedlings of last year vigorous, as also crops from sets procured from the North and West country, and some from Rio Janeiro.—Many fields look miserable which had been planted with diseased tubers.

*Norfolk.*—All varieties affected nearly alike. Those manured with lime the worst in one instance. Disease spreading rapidly.

*Perthshire.*—Several fields much diseased. One of some acres a perfect wreck, and others in the same state; disease spreading fast.

*Shropshire.*—Crops generally affected. One field a month ago flourishing, now a pitiful spectacle, the leaves entirely stripped from the blotched and fast-decaying stems, and the tubers near the surface discoloured.—Winter sorts presumed to be a total failure.

*Surrey.*—Disease spreading rapidly. Those on poor soils least affected.

*Worcester.*—Disease of last year again; but plants in garden looking so well that if August proved dry hoped the calamity would not be so great as anticipated.

*Wiltshire.*—Disease universal, and proceeding rapidly.

*Wiltshire.*—Disease spreading rapidly; and varieties which last year escaped comparatively uninjured, this season affected.

*Yorkshire.*—Early crops free from disease; 2d earlies a fortnight ago sound, now with leaves withered as in Nov.—stalks decaying—tubers all shew the spot. Winter potatoes in full flower, (22d July), with no disease discoverable.

After taking this gloomy view of the subject, it affords some relief to be able to approach something like a tangible practical conclusion respecting the origin of this appalling disease, in the following interesting extract of a Communication in the same well conducted periodical:—

*The Potatoe Disease.*—I have watched this peculiar visitation with much interest now for more than a twelvemonth, and although its reappearance has been doubted by some, it now begins to be generally admitted to have actually taken place, and to be carrying destruction into every quarter. I have not seen a piece of Potatoes in a cottager's garden, a farmer's field, or any other place, but what is previously affected with what is and has been termed "the disease," viz., ulceration, gangrene, putridity, mildew, and every form of mischief; and the effluvia is very disagreeable in every quarter.

I have the most abundant crops of Potatoes from autumn-planted sets, but the haulm and foliage of none are free from the pest, or ever have been, though to a casual observer they appeared all that could be wished, luxuriant and healthy. I had a beautiful bed of seedlings, and a quantity planted out in due time are growing away as luxuriantly as from a good sized tuber; they are all diseased, and have long been so, although the seed was brought from Ireland, and advertised as having been saved from plants free from disease. They were sown by me on a healthy, sweet, well prepared piece of ground, and planted, too, where a Potato to my own knowledge had not been grown for those last six seasons—if ever previously. I have observed that all those manured with charrings, soot, and lime, are the last to be attacked in the stalks and foliage: and I have not as yet found a decayed or affected tuber to outward appearance amongst those manured with the above materials, but I will look sharply after them on taking up the crop, which will very soon now take place, as I have long since burnt up all the stalk and foliage. I shall, as I did last year, dress all the Potatoes as they are taken up with the above materials; indeed I have all the early crops already done; but then it is of but little use unless my neighbours also put an effectual remedy into practice.

The real cause of all this destruction amongst the Potato crops is a very small insect of a light yellow straw colour, with a small pointed head with horns, and it has six legs. This appears to me

to be the female, the male is something larger, of a darker colour, having wings and four golden coloured stripes on each side of its body: these insects are remarkably active in their movements, puncturing the ribs and other parts of the under sides of the foliage of the Potatoes, where they may easily be discovered with, or by the application of a good glass; and if the stalks and green leaves are placed in a good position in respect to the reflection of a good clear light, &c., both the insect, their wood and bunches of eggs, may readily be discovered on their stems, stalks, foliage, or tubers, that are to all appearance to a casual observer healthy and unaffected; gangrene, putridity, and mildew take place, according to atmospheric and other causes, very quickly after those destructive have made punctures, which they do astonishingly quick, proceeding on to more healthy parts. This will be clearly visible with a good microscope.

This conclusion is founded on long and close observation; I collect foliage and stalks from the most healthy plants, and if the above described insect is to be discovered on any part, the crop will very early show symptoms of disease; the full-grown insect may be observed with the naked eye, although its shape and limbs cannot be seen. By taking a handful of Potato-stalks and leaves, and placing them in a vessel of water, and covering the whole with a bell glass, the whole progress of both insects and disease will very readily and easily be discovered by a watchful observer. This morning I was looking through my microscope at the industry of two I had enclosed on a Potato-leaf. Their activity in making punctures is astonishing; they seem to stay a short time to suck out the juice, as one of them made five punctures, and the other two, in less than a minute and a half, all of which were clearly observable: some of the Potato foliage I have seen thus punctured on the underside as quickly as a village green would be with a drove of pigs without rings in their snouts, and it has a somewhat similar appearance in one stage. It is of little utility to search for the offender, or cause of the disease. Where it is already visible to a casual observer, in the shape, blotchings, gangrene, putridity, mildew, &c., the real cause will not then be found. The real offenders must be searched for on the most healthy parts, and if they are there to be found, the crop is sure to be considerably injured, if not a total failure. I discovered the very insect above described last year, but I could not imagine it to be the cause of the evil; but its again making its appearance this year so early in the hot-houses, pits, and frames, hooped beds, borders, quarters, and every field and garden, induced me to have a very strong suspicion of him, and that this is the real cause of all the mischief I am fully satisfied. Where soot, water and char-coal-dust is applied, it either kills or drives them away; but as to Tobacco-smoke, it does not seem to take any more effect on this insect than it would on an old Chelsea pensioner. Whether it is a small locust or thrips I cannot say; but as to its ravages, there may yet be hopes that they may be stopped, and that this useful vegetable will not be wholly lost to the country. Atmospheric changes and variations of seasons have an astonishing effect in retarding or entirely stopping the ravages of insects.

After this clear, lucid, and to my mind highly satisfactory investigation of the origin and progress of the disease by so well informed and careful a practical observer, it might be considered altogether unnecessary to superadd another word, until further accounts from Britain shall have reached us; but as even the best evidence is strengthened by corroborative testimony, I will venture to adduce the following opportune additional proof which has lately come to my knowledge; namely, that Mr. Balkwell, a respectable Chemist of Kingsbridge in Devonshire, has addressed a Communication to the Secretary of the Royal Agricultural Society on the same subject, in which he says,—“The Potato disease is spreading in this locality more, if possible, than last year; and as I imagine that I have, beyond a doubt, discovered the origin of it, I am desirous of putting you in possession of the facts, which I will do in as concise

a form as possible. I planted some perfect seed in my garden that had lain in the ground all winter, and I believe a potato was never planted there before, so I determined to watch for any symptom of disease. I observed the stalk first eaten a little at the top, and soon after a number of *green bugs* as large, or nearly as large as a common house fly, made their appearance. A few days after I noticed the disease in that part where I observed the bugs; and after getting one or two stalks much diseased, it seemed to spread very rapidly. I then saw one of the insects void a greenish fluid, and I took a perfectly healthy leaf and smeared it over it. In 12 hours it was spotted in many places, and in 24 hours the spots were nearly as large as peas; and in double that time a mass of disease. I then practised the same experiment on a growing healthy stalk, and one apart from the disease. In a few days it was perfectly withered and rotten. I then mounted on horseback and rode many miles into the country, and in every instance I found the *insect* wherever the *disease* appeared; but amongst the healthy ones there was not a vestige of one to be seen. I shall be most happy to afford all the information in my power on this most serious calamity; but from my experience it appears to me to be quite evident that the disease is contagious; and that one or two stalks, and as many insects are sufficient to infect an entire field. *These insects leave the plants as soon as it becomes diseased, which will account in a measure for its not being discovered before.* If you wish I will procure the insect and send it to you; I had many confined, but they are all dead."

After this unreasonably lengthened intrusion upon your valuable columns, it would be unpardonable to add more, prolific though the theme may be. I beg therefore to bring my desultory observations at once to a close, with one more simple observation—namely, that it would appear as if the learned investigators of this dreadful pestilence had, "some how," been strangely mixing up "*cause*" and "*effect*"; and that, therefore, from such "confusion worse confounded," little satisfaction was to have been expected. At least much may very reasonably be inferred to have been the case, when we learn, by the last accounts from England, that at the last meeting of the *British Scientific Association* in September last, the Potato disease engaged the attention of the *Botanical* section for one day, when Dr. Buckland, after a long discussion, summed up with declaring, "that he could not tell what the disease was, or how it could be cured; but that he thought it arose from the '*debility*' of the root; but the fact was, they were possessed of less information (!) now than before the Government Commission commenced its inquiry!" In spite of all this, however, let us indulge a

fervent hope that the origin of the Potato disease being at last ascertained, as stated above, *science* may now be enabled to suggest some measures to palliate, if not counteract its influence, and that it may, at worst, prove only of temporary duration,—like the dreadful ravages of that still more inexplicable scourge the cholera; or that if destined to become an uncertain periodical curse, its visitations may be either few and far between, like the more limited devastations of the Locust and "army worm,"—or that, as is the case with those more permanent minor agricultural pests, peculiar to certain plants, such as the *wheat* (or *hessian*) fly, the *turnip* fly, and the *pea* bug, or even that destructive fungus the *rust*, some means may yet be discovered for either arresting or preventing its future ravages.

In the mean time believe me to be, though only a humble gleaner in the field of science, a thorough friend to agriculture, and particularly that of Canada, and your very obedient servant,

R. L.

Montreal, November 26, 1846.

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*New Elements of Operative Surgery*, by Alf. A. L. M. Velpeau; translated by P. S. Townsend, with Notes, &c., by Valentine Mott, M. D. New-York: J. & H. G. Langley.

We have received only the Second Volume of this great work, but from its examination we hesitate not to say, that the whole must be the most complete and elaborate treatise on Operative Surgery, in any language. The present Volume contains 992 pages, closely printed on large Octavo, and there is yet a third to be published. Our readers may, from this circumstance alone, form an idea of the degree of care, research, and learning, devoted to each article. The writings of Velpeau possess one characteristic which distinguishes them from those of his countrymen, viz., that they are not compiled from the Medical literature of Paris alone, but comprise everything that is new or valuable in the productions of German, British, American, and Italian authors—hence the present treatise must be regarded as exhibiting the actual state of Operative Surgery in the present day. The additions and notes supplied by Dr. Townsend are most valuable. The present Volume contains, likewise, an account of all the great operations performed by Valentine Mott, a name that must be revered and honoured, wherever Surgery is cultivated as a Science.

It would, of course, be absurd to attempt an analysis of such a work as that before us, but we earnestly recommend our readers to purchase it, and we doubt not, they will derive satisfaction and improvement, from its perusal.

## PRACTICE OF MEDICINE AND PATHOLOGY.

## DISEASES OF WORKMEN ENGAGED IN MAKING LUCIFER MATCHES.

This subject has attracted a good deal of attention in Germany and France, and as we have in this country similar manufactories, it may be of some use to state what has been noticed concerning it.

An interesting communication was published in the Medical Gazette of Strasburg, in 1845, by Dr. STROHL. He states, that about a year previous, a female was received by him into the hospital, whose inferior maxillary bone was completely denuded of the soft parts, and its surface was grayish, rough, rugous, and covered with a fetid suppuration. She informed him that she had been for many years engaged in making chemical matches, and had thus contracted the disease. After remaining about a month, she left the Hospital, and died soon after.

Dr. Strohl could scarcely, from this solitary case, imagine any connection between the disease and its assigned cause, but in June, 1845, he was consulted by another female aged twenty-four years, in a similar condition. She had laboured during five years in the manufactory; her particular occupation being to dip the matches into the phosphoric mass. During all this period, she had experienced no inconvenience. She then left the establishment, to assume another occupation, which, however, it is added, was not laborious. In three months after leaving, she experienced violent pain in the right upper jaw, which was soon succeeded by swelling and abscess of the gums. Eight teeth in succession became rapidly carious, and were removed. This had some effect on the swelling, but it soon increased again, extending to the cheek and part of the neck.

According to the patient's account, the suppuration at its commencement had a strong odour of phosphorus.

When first seen by Dr. S. she had been eighteen months away from the manufactory. Six weeks previous to this time, she had been brought to bed, but did not suckle the child. Pregnancy on the whole appeared to have proved favorable to the disease, but on new examination, there was found to be a necrosis of the superior maxillary. Various remedies were employed. Cod-liver oil was one of them, but she could not continue its use. Iodine internally and a solution of creasote for an injection, to the fistulous opening, with chloruret of lime, gargles, proved successful in arresting the progress of the disease, and restoring the parts to a healthy condition.

Two additional cases presented themselves to Dr. Strohl, in July of the same year. One, a female aged twenty-two, had been two years employed in the same manufactory as the preceding patient. Her health had continued good until the last two months. Then the gums began to soften and swell—violent pains in the teeth of the upper jaw followed, with swelling extending over the whole cheek. The teeth becoming carious, fell out, and a fetid suppuration proceeded from the sockets. On examination, the bone was found largely diseased.

In the other instance, a female also, aged twenty-two, had been employed six years. Her particular business was to make up parcels, but this was done in the same room where the matches were dipped. At first she experienced a defluxion from the nose, which soon became permanent. At the end of three years, her face began to swell and she then left the business. The swelling gradually increased, and she entered the hospital. Several teeth were extracted, with but little relief. She appears to have repeatedly left and returned to the hospital, with the swelling continuing, until at last an abscess formed in the superior maxillary bone, which left it carious.

In addition to these, Dr. S. also knew of three others. Death ensued in two instances, and the third was cured.

The information that he obtained was not very satisfactory. There were two manufactories of these matches; six of the diseased came from one and but a single person from the other. In the first, the work was for a long time done in a small chamber, but the persons employed are now transferred to a more spacious apartment. Few remain uninterruptedly in the business; they come and go for a longer or shorter interval. As the phosphoric emanations are very irritating, a great number are taken with cough, which sometimes is so severe as to oblige them to leave off work. Pain in the teeth and serous catarrhs are also common. Indeed, the above seven cases all commenced in this way, and it will be observed that in one instance the affection of the bone did not

occur until a considerable time after leaving the establishment. The nature of this, it is difficult to characterize; it is not a simple caries, nor is it a simple necrosis; the soft parts detach themselves from the bone to a large extent and leave below a bony, gray, rough, but solid surface, and a gray, fetid suppuration exudes. After an uncertain period, this separates, without any appearance of new bone being formed.

Dr. Strohl does not doubt the affinity between the employment and the disease produced. How else are we to explain the great similarity in the symptoms? If it be urged, that out of fifty workmen, only six have been attacked, he replies that all of these last have been long engaged in this occupation, while most of the others were so only temporarily. It is possible that the disease may still break out in these. At least one of the patients informed him, that three others were now labouring under permanent fluxions, and she doubted not, but that they would be similarly attacked.

Dr. S. finds some difficulty in explaining the mode of action of these phosphoric vapours. The affection is purely local; no general symptom precedes it; no other part of the osseous system, except the mouth is attacked, and the general health is not affected, unless the suppuration be very profuse. In his opinion, the vapours of the phosphorus become changed, by contact with oxygen, into hypo-phosphoric acid, and this breathed in, is dissolved by the saliva, and becomes phosphoric acid. Again, this last acid is frequently produced by the combustion of the phosphorus, since it often happens that the vessels in which the masses of phosphorus are melted take fire, or again, the matches when prepared, will also frequently inflame.

This acid, then, when dissolved in the saliva, renders it corrosive, and as the saliva rests longest against the gums, these will imbibe the liquid acid, which in turn will attack the teeth, and filtering down, at last reach their sockets. This explains also why the tongue is not affected, although the gums and cheeks are. The tissue of the tongue is probably more refractory; at all events, the saliva on that organ is more rapidly swallowed or rejected, than that at its sides or retained in the various cavities. Hence also the nasal cavities and the bronchial membranes are not affected. In the first, the acid meets only a small quantity of fluid, of a viscous nature with small dissolving power; in the bronchie, it is the same, and as the passage of vitiated air must be here very rapid, the solution will be small in quantity. Still the habitual cough of the workmen proves the irritant quality of these vapours.

At the meeting of the Royal Academy of Science of Paris, held February 16, 1846, Mr. T. Roussel presented a memoir on the same subject.

Many physicians, he remarks, have already noticed diseases produced in this manufactory. Gendrin has spoken of the severity of the bronchitic attacks among the workmen, and several German physicians are of opinion, that necrosis of the jaws originates from the same cause.

After a careful examination of the workmen in the French manufactories, he found that cough and bronchitis existed with more or less intensity amongst them, and also that diseases of the gums and maxillary bones, terminating in necrosis and sometimes in death, were not uncommon. So far as he could ascertain as to the last complaints, they were not ascribable to syphilis or scrofula, but only appeared after a sojourn in the manufactory for at least two years, and in individuals habitually exposed to the fumes of phosphorus. All the workmen affected, whom he had observed, had decayed teeth before the disease commenced, not unfrequently before commencing the manufactory. Many other workmen with sound teeth have preserved them in the midst of phosphoric vapours, a fact which induces him to believe that carious teeth constitutes a predisposing cause of the disease.

As to the idea of some German physicians that the necrosis is owing to the vapours of arsenic, which in some manufactories is mixed with those of phosphorus, he shows that the effects of arsenic have nothing in common with these here observed, and again that necrosis of the jaw-bones happens where arsenic has never been employed. He thus attributes the principal action to the vapours of phosphoric acid.

The sanitary measures proposed by M. Roussel, are 1. To carry on every operation in a separate locality, and by this means greatly diminish the number of those now exposed to these fumes, and 2. To establish a perfect system of ventilation in the workshops of those who must necessarily continue exposed.

At the meeting of the same body, on the 9th of March, M. Sedillot of Strasburg, presented observations on necrosis of the bones of the face and palmaria diseases in workmen of this description, which had occurred under his observation. His cases are very similar to those of Dr. Strohl. Three females were admitted in succession, each having laboured about four years in the manufactory. All had necrosis of the severe and large extent as in the worst instances already related, and the third of these was in addition suffering under phthisis, of which she died. The affected parts, in those who recovered, remained solid, and covered apparently with a mucous membrane of a red colour.

But on the other hand, Bricheteau (*Journal de Medecine de M. Trousseau*, March 1846), is disposed to doubt the accuracy of the above opinions. He remarks, that Heyfelder, Professor of Clinical Surgery at Erlangen, has published a number of cases of necrosis of the maxillary bones in workmen of this class, and that they are ascribed to the phosphoric fumes, and further, that in the manufactory at Nuremberg, nine cases have occurred, and the same number in the workshops of Vienna, according to Lornaser.

These facts appeared so extraordinary and alarming, that Chevalier and himself were induced to examine the manufactories of Paris, whether similar affections existed there. The result was, that among about two thousand workmen, male and female, no case of caries or necrosis is stated by the proprietors to have been noticed.

They collected, however, the following: 1. A workman had been attacked with a disease of the jaw-bone, but no further information could be obtained concerning him. 2. A superintendent laboured under caries of the jaw-bone, but his attending physician considered it to be a syphilitic affection. 3. A female had been attacked with the same and died in one of the hospitals of Paris. 4. A female had an ulcer of the cheek, but her attending physician certified that this existed, before she entered the manufactory.

The workmen state that the vapours arising from the combustion of these matches, consists of sulphurous, phosphorous and phosphoric acids, that these produce cough among them, and this is always more severe in winter than in summer, as in the latter season, the windows being open produce a free ventilation, which it is impossible to obtain in the cold season.

Dr. Belfour, in the *Northern Journal of Medicine*, has added some interesting facts in relation to these manufactories. The dipping of pieces of wood in the phosphoric mixture and the drying of the matches, are carried on in ill ventilated rooms, from twelve to thirteen hours daily. In each establishment, from three to four pounds of phosphorus are daily employed in the production of from one to two millions of matches, the mere drying of which must give no inconsiderable quantity of phosphoric fumes, to which also must be added the quantity of metaphosphoric acid produced by the burning of sundry parcels, which, in spite of care, is not uncommon. It would seem that continued exposure to the fumes for a length of years, is requisite to produce the disease, as no cases were observed at Vienna until the manufactories had been at work upwards of eleven years. Scrofulous subjects suffer most, and in them the disease is most fatal. Almost all the girls employed have the gums more or less affected, and at their junction with the teeth, a red ulcerated line, like that produced by mercurial salivation, is apparent. When the individual is robust and the necrosis is confined to a small portion of the bone, exfoliation takes place and a gradual cure follows, but where there exists any tendency to scrofula, phthisis becomes developed, and the patient sinks under the combination.

It is mentioned in *Chambers' Journal* for July, 1846, from which this last notice is taken, that the Austrian government, in order to counteract as much as possible this distressing malady, has ordered the observance of the following precautions: 1. That the matches must not be permitted to be dried in the workroom, and if possible this must be done in one situated above it. 2. That every second hour, the girls be obliged to wash their mouths with acidulated water, and 3, that they be sent out twice a day to take their meals and get some fresh air. These precautions are ordained on the recommendation of a medical commission.—*American Journal of Medical Science*.

T. R. B.

## ON LEAD & ITS ACTION ON THE ANIMAL BODY

A contribution towards determining this action for the use of Physicians, Chemists, and Artists.

By FERDINAND RUMFELT, M. D.

To the physician the most interesting portion of the present treatise is that which refers to the character of the morbid effects produced by the action of lead upon the human body, the parts of the body on which the poison acts either primarily or secondarily, and the manner in which it exerts its deleterious influence. The leading conclusions of the author in relation to the pathological effects resulting from the different preparations of lead, are drawn from cases in which these were administered to cows and other animals—and notwithstanding he has compared, and apparently with much care, the phenomena which resulted from the action of the lead in these experiments, and the morbid phenomena exhibited by the human subject, when accidentally exposed to its influence, we have less confidence in the accuracy of those conclusions than we would have had, were they based throughout upon an extended and cautious series of strictly clinical and pathologico-anatomical observations. The work, nevertheless, presents a number of very interesting facts.

It is divided into twenty-nine parts. The first comprises a general account of lead as a metal, and in its several chemical combinations. In this the author advances the general proposition, that, in no form, can it be without danger introduced into the animal body, and only under certain conditions externally. In the second part is presented a view of the deleterious influence of lead upon those who are engaged in procuring its ore, as well as upon those artisans who make use of its oxides and salts—with some remarks upon the means of avoiding its poisonous action.

In the third part, the course of the disease produced by the action of the carbonate of lead is shown by the detail of seven cases, which fell under the care of the author. The general summary of the symptoms is given in a succeeding chapter.

The fourth part treats of the direct, indirect, and remote effects of the lead; compares the phenomena resulting from its action upon beasts and men; investigates the mode in which it gains admittance into the circulating fluids; and notices the primary and secondary diseases produced by it.

From this we translate the following account of the morbid phenomena resulting from the poisoning by lead which occurred in seven workmen in a white lead factory, and which phenomena were designated as those of colica pictorum.

"As in all other diseases, the lead colic is destitute of premonitory symptoms; the very first symptoms which present themselves being the commencement of the pathogenetic reaction. Hence, the first indications of disease are a sense of languor and lassitude with a disinclination to rise from bed. The digestion is disturbed; the taste is diminished; sweetish—astrigent—or abnormal and bitter. The taste for food becomes entirely lost, and all food is alike disgusting. There is intense thirst. The patient becomes disgusted with everything; is agitated at intervals; commences to gag, without discharging anything from the stomach. The bowels become costive, and no evacuation occurs for many days, and is only obtained by the use of purgatives, when the fæces are discharged in the form of hard balls. The discharges, are, however, sometimes of a pulpy or fluid consistence. As soon as the purgatives are suspended costiveness again recurs. At first the patient passes but little urine, not more than a tablespoonful at a time, which is of a straw color and only passed with much straining and pressure upon the bladder—subsequently scarcely any urine is discharged, and finally none. The face is pale as if dusted over with flour. The countenance becomes, as it were, broken up, distressed, and of a grayish-yellow color. There is a sense of oppression, heaviness, and numbness of the



head, with pain and vertigo. A sense of weight and burning in the stomach or umbilicus; then a painful tension extending from the stomach to the scrotum; and in the rectum, bladder, and back, a dragging pain. The stomach is drawn inwards, and the whole abdomen flattened. The patient is unable to lay still for any time, but throws himself about upon the bed. The distressing sense of uneasiness extending throughout the body renders sitting and lying equally painful. In consequence of the pain he is unable to lie upon the back or either side. The pulse is either weak or somewhat firm, full or small. It is either slow, oppressed, or jerking. It is synchronous with the motions of the heart. The respiration is deep. During the paroxysms of pain it is somewhat increased. The parietes of the chest cease to act. The patient affected with chilliness, often running into a complete rigor. His eyes have a staring expression. The gums have a morbid dead-like appearance, and their edges are of a livid or whitish-blue color. The legs and hands tremble, and the knees in walking give way. The chills begin to alternate with increased heat; with this commences the second stadium of the disease.

"As the pain increases or diminishes, and as the organs of the abdomen or chest become affected, the pulse increases in frequency; in a single day rising from 65 to 100, from 100 to 120, or even to 126 strokes—it is, at the same time, either hard—hard and full—or soft and small. The breathing becomes short, quick and superficial—often impeded by pain of the chest, and the patient experiences a distressing sense of oppression.

"The patient discharges a portion of mucus without cough. A tetanic contraction of the extremities comes on—a pain extends down the arms to the hand, and causes the limb to be kept extended, unless when the hand is spasmodically directed towards the epigastrium, and the fingers bent. Severe pains extend from the stomach over the left ribs towards the back, shoulder-blade and breast. At the same time a burning pain extends from the spine into the rectum, causing frequent ineffectual efforts at stool, and into the testicles. The severe pains of the extremities cause them to become contracted and distorted. The pains of the thighs are often so great as to cause the patient to scream out. The parietes of the abdomen at the hypogastrium lie upon the spine—they are rather contracted and tense than drawn inwards. The bowels continue obstinately costive and sometimes for fourteen days no urine is passed, or only in a very small quantity at a time. The pain in the back, rectum and testicles, destroys the patient's strength and renders him unable to move. There is a rigidity extending from the forearm over the whole body. The eyes are open and fixed; the pupils do not contract. The pain extends towards the eyes, the motions of which cause a stinging sensation.

"The third stadium is properly only the remote effects of the poison. The pulse is now scarcely to be counted; it is tremulous, irregular and intermitting. The head is oppressed, with a tendency to determination of blood to its vessels. There is pain at the top of the head, and the brain feels as if compressed. The pain is sometimes so severe as to cause the patient to scream out. The patient becomes speechless; by the motions of his head he gives intimation that he hears and understands the questions put to him, but finally loses the power to do this. There is a distressing sense of restlessness throughout the whole body—so that the patient can neither sit nor lie, and when he attempts to stand his knees sink under him. He feels a painful sense of oppression behind the sternum and in the left breast.

"If the disease does not terminate in palsy, and the remedies employed during the second and third stadii have their desired effects, the bowels become relaxed, the stools of a more natural appearance; the pain in the abdomen disappears, and the functions of the digestive organs begin to assume their normal activity. The skin becomes moist,

and the urine is regularly discharged. The sense of oppression at the chest disappears: the pains diminish in intensity and the breathing becomes free and regular. The oppression of the head and the vertigo cease; the intellect becomes clearer, and the countenance assumes a more sprightly expression. The nights are more quiet, and the patient sleeps more naturally. The digestion becomes regular. The feeling of every part of the body becomes improved, and the strength gradually increases. The complexion, however, continues, for some time pale, and the livid, deadened gums remain separated for a length of time from the teeth."

This section concludes with some remarks on the different groups of symptoms which result from the poisonous effects of the different preparations of lead according as they are introduced into the lungs, or stomach, or are applied upon the skin. Colic, it is very generally admitted, is one of the most common forms of disease resulting from the lead in whatever manner introduced: and accordingly as the lead affects the motor nerves, the lungs, or the brain, succeeding or superadded to the enteralgic symptoms, there occur anthralgia, diminished action and rigor of the muscles, the extremities ending in paralysis, diminished action of the heart, encephalopatia and various nervous symptoms, disturbed respiration, oppression of the chest, &c.

In the ensuing chapter the author presents more fully his views of the mode in which the lead, when introduced into the system, produces its deleterious effects. When acetate of lead is introduced in large or repeated small doses into the alimentary canal, he describes it as first uniting with and changing the properties of the mucus contained in that cavity, while, at the same time, it excites gradually an irritation of the mucous membrane, indicated by increased thirst and loss of appetite—which becomes more or less intense, according as the acetate of lead is more or less changed by its combination with the mucus. A portion of the lead also enters into the orifices of the veins of the stomach and intestines, and thus mixing with the blood changes the properties of the latter—producing small dark coagula. The irritation produced by the action of the poison upon the stomach being conveyed through the nerves to the spinal cord, is thence reflected upon the other nerves of sensation as upon those of motion. The disturbance of the respiratory function, the author believes, to be in part owing also to the direct action upon the pulmonary blood-vessels and their nerves of the lead conveyed to them through the blood. The irritation of the stomach is, in time, extended to the brain, and thence reflected upon the different cerebral nerves; but the brain may also be immediately affected by the lead contained in the blood circulating through its vessels.

It is not necessary to follow the author in his exposition of the views thus briefly announced, and his application of them to explain the nature and succession of the symptoms produced by the action of lead on the animal body.

To show the action of the lead (white lead) upon the coats of the stomach and bowels, the morbid appearances presented by the different organs in animals destroyed by the acetate of lead, are compared with the pathological condition of the same organs in the human subject after death from the effects of lead, as given by Tanquerel.

#### RUMFELT.

"1. The upper layer and epithelium of the stomach formed a slimy, 1.2 lines thick, homogeneous mass.

"2. A thick, glutinous, ropy, semi-transparent mucus, took the place of the epithelium of the stomach.

#### TANQUEREL.

"1. The mucous membrane of the alimentary canal, from one foot below the stomach to the rectum, was covered with a thick, glutinous, yellow mucus, which was with difficulty scraped off with the knife.

"2. A thick coagulated mass covered the mucous membrane of the intestines.



"3. The mucous membrane of the stomach was at different parts changed to a whitish appearance, dry and friable.

"4. Through these whitened spots, the vessels, distended with blood, of the inner coat of the stomach could be distinctly perceived, as red lines.

"5. The entire length of the small intestines were in parts decidedly redened.

"6. There occurred numerous small ecchymoses on the whitened portions of the mucous membrane of the small intestines."

"3. The small and large intestines were somewhat contracted, and covered with a thick adherent layer of a glutinous matter. They could be readily distended by inflating them with air, but tore upon the slightest handling.

"4. Brownish lines indicated the course of the gastric vessels.

"5. The stomach and small intestines were slightly reddened—and the rest of the canal in parts of a rose red, and, as it were, injected.

"6. Ecchymoses and blackish stripes appeared upon the mucous membrane of the small intestines."

In the same manner the author exhibits the effects of lead upon the brain.

#### RUMBLUT.

"A portion of brain of a young man examined after forty-eight hours.

"1. The gray and white substances were not to be readily distinguished from each other, both being of a greyish-white appearance.

"2. By slight traction some portions were easily separated, which presented an evident fibrous appearance.

"3. In the brain of an adult forty-eight hours after death, both substances were easily distinguished from each other, notwithstanding the gray had assumed an appearance similar to the white.

"4. The substance of the brain was of a dense consistence and was easily broken.

"5. The pia mater was thickened and easily separated from the brain."

"A portion of the spinal cord of adults examined twenty-four and forty-eight hours after death presented the following appearances.

"The pia mater very much contracted and thicker than in its normal state, so that the cut end of the medulla spinalis projected considerably beyond the

#### TANQUEREL.

"Tanquerel describes the following as the pathological appearance presented by a number of brains.

"1. a. The substance of the brain was externally of a dirty yellow, and internally of a grayish color, and the grey substance of an ash-gray yellow. b. The substance of the brain was of a dirty yellow.

"2. Dr. Glück notices a number of canals through many parts of the white substance of the brain in a person destroyed by the effects of lead, as a morbid appearance.

"3. a. The substance of the brain was of a yellowish color. b. The white substance was of dirty yellow, ash-gray, and dull, and almost transparent; the gray substance, instead of a rose red, appeared of a yellowish-green.

"4. a. The parenchyma of the brain was hard. b. It was as readily broken as the substance of the liver. c. The convolutions of the brain were flattened so that the depressions between them had disappeared. d. The texture of the brain was hardened.

"5. a. The meninges were dry. b. *ibid.* c. The meninges in a patient who had died of encephalopathy from the poison of lead were dry. d. The meninges with their destined blood-vessels were dry."

Tanquerel notices a softening of the substance of the cord; an injected and yellowish appearance of the cerebellum and medulla oblongata; a softening of the medulla lumbaris; a number of coagula of blood in the dura mater spinalis; from 3.4 ounces of fluid in the spinal canal, the veins being at the same time

divided edge of the former, in the form of a button, in which the fibres of the cord were very readily detected."

A portion of the *ischiatric nerve* three inches long, presented, twenty-four or forty-eight hours after death, the following appearances.

"The sheath of the nerve was thickened and contracted, so that the contained nerves, with their neurilemma, separated from each other, projected beyond the divided end of the sheath in the form of a button, and of a firm consistence, opaque and of a yellowish-white color. The nervous sheath was at its edges somewhat transparent, and appeared of a dead grayish-white color. The individual nervous filaments appeared separated, and distinct from each other."

In the tenth part the author treats of the entrance of the oxide of lead into the blood. while he admits that the presence of lead in the blood has not been detected by chemical analysis, the fact, he believes, may be established by the change in the physical appearance of the blood, and in its physiological relations.

In the thirteenth part, the author presents the results of experiment made to test the presence of lead in the blood of different portions of a rabbit, destroyed by the administration of acetate of lead.

A portion of the lungs being subjected to the action of a solution of sulphuretted hydrogen, became immediately of a brown colour, and after twelve hours a slight dark-colored precipitate was thrown down. Sulphuric acid, added to the blood from the heart, caused an almost imperceptible cloudiness.

Blood from the thoracic aorta and vena cava, subjected to the action of sulphuretted hydrogen, became of a brown color, and after some time a slight precipitate took place;—subjected to the action of sulphuric acid, after a long time it became slightly cloudy.

The small intestine, from which the yellowish mucous coating was removed, being submitted to the action of sulphuretted hydrogen, there occurred, after twelve hours, a little blackish precipitate, but under the action of sulphuric acid presented no perceptible change.

When the duodenum, after removal of the coating of mucous, was subjected to the action of sulphuretted hydrogen and sulphuric acid, the same results occurred. The kidney gave under the action of sulphuretted hydrogen a black precipitate, and under the action of sulphuric acid, a slight precipitate. Results were obtained when the brain was submitted to the same reagents, similar to those obtained from the heart. No traces of lead could be detected in the medulla spinalis.

In the remaining portions of the work, the author explains the pathology of the several forms of disease produced by the poisonous effects of lead, by an application of the general proposition which he has attempted to establish, namely, that the lead produces a direct irritation upon the tissues with which it comes first in contact—which irritation is extended through the nerves, the spinal marrow and brain, to neighbouring and remote organs; the lead also causes, by

gorged with blood. The pia mater decidedly reddened by over-distended ramifications of its blood-vessels, and the substance of the medulla spinalis presenting numerous red points. Other accurate observers notice dryness of the membranes of the cord and increased density of its substance.

Tanquerel notices the following as the morbid appearances observed by him in the nerves.

"The substance of the nerves in a patient who died amaurotic and comatose, was firm.

"The ganglions in a patient who had suffered from encephalopathy had a grayish-yellow appearance."

its entrance into the blood and the changes it occasions in it, an irritation in the deep seated organs, to which it is carried in the course of the circulation, so as to come immediately in contact with their tissues. The whole of the morbid phenomena produced by the poison of lead, are referred to a subacute inflammation of the vascular and nervous systems.

Thus, in what the author terms the five forms of the lead disease, we have

1st. Symptoms referable to the abdominal cavity, commencing with colicky pains, (*colica saturnina*), and terminating with all the symptoms of enteritic inflammation.

2d. Symptoms referable to the thoracic cavity—oppression and tightness with shortness of breathing, and symptoms similar to those of pneumonia and carditis.

3d. Symptoms referable to the cranial cavity—as severe pain and oppression, and other symptoms indicative of an inflammatory disturbance of the brain.

4th. Symptoms of painful irritation or inflammation of the medulla spinalis—giving rise to tonic and clonic spasms of the muscles, terminating in anæsthesia or paralysis.

5th. In the subcutaneous cellular membrane, and in the synovial membranes, more particularly of the lower extremities—violent anthralgia, with swelling of the joints, and other symptoms of inflammation.

The treatise of Dr. Rumpelt is, upon the whole, calculated to improve our knowledge of the pathology of the diseased condition produced by the action of lead upon the animal body. Some of the positions assumed by the author appear to us to want a more extended series of observations to support them—while his pathological reasoning does not strike us as being always very accurate. Many of the data from which the author's conclusions are drawn are derived from the effects, direct and remote, which resulted when large or repeated doses of one or other of the salts of lead were given to animals—now, whether the pathological effects of these salts, when thus administered, are identical with those caused by the lead introduced gradually into the system—as in the case of the various workmen who are brought daily in contact with one or other of its preparations—is a question which may admit of some doubt. It is true that the author has endeavoured to remove this doubt by comparing the symptoms during life, and the state of the organs after death as presented in animals poisoned by lead, and in patients laboring under disease produced by exposure to its influence: still there is a very great difficulty in making the comparison so as not to be led into error.

—*American Journal of Medical Science*.

#### SULPHURIC ACID IN APHTHÆ.

Prof. Lippich, of Padua, employs, with success, the sulphuric acid against aphthæ, and in syphilitic mercurial stomatitis, when the mucous membrane of the mouth and lips are covered with ulcerations which render deglutition difficult. He uses the following formula:—R. White honey, 30 grammes; sulphuric acid, 2 grammes. Mix, and make a liniment. In grave cases the proportion of the sulphuric acid may be increased to eight grammes to the same quantity of honey. The ulcerated surfaces are to be frequently touched slightly with this liniment by means of a soft pencil.—*Gazette Medicale*.

#### ON THE EFFECTS OF EMETICS ON YOUNG SUBJECTS.

By JOHN B. BECK, M.D.

Dr. Beck remarks that children vomit with greater facility than adults; this he ascribes to the more conical shape of the stomach in children, in consequence of which the contents are more readily forced out. Active and debilitating emetics, the author adds, are often injurious; he alludes especially to the antimonial emetics. In the first place, tartar emetic is a powerful *sedative*, and children do not bear

well this class of agents. The following are the author's conclusions:—

1. As a general rule we need not be afraid of vomiting the youngest child, provided the means used are mild—such as ipecacuanha, &c. The mere act of vomiting is attended with no danger, while the remedial agency of an emetic is one of great power and value. Besides acting on the stomach, it extends its influence to the mucous membrane lining the pulmonary organs, promoting secretion in the first place, and then aiding in dislodging and ejecting morbid accumulations; accordingly, in pulmonary affections, there is nothing so efficacious.

2. The vomiting induced by the preparations of antimony ought to be resorted to with great caution in very young children, and should never be used except in those cases where a sedative effect is required, and can be borne with safety. Inflammatory excitement ought then always to be present to justify its use in a young child. Where the object is simply to evacuate the stomach, it ought never to be thought of. In such cases as croup and pneumonic inflammation, it may be justifiably and beneficially used. In these cases it will be found, that the system can bear the sedative influence of the article much better than it can in the ordinary conditions of the system. Even here, however, care should be taken not to push the article too far, as dangerous collapse has been known sometimes to be the result.

3. The continued use of Tartar Emetic in young subjects cannot be too specially guarded against. It is in this way, probably, that it is so apt to prove injurious. A single dose, even though it vomits very freely, may be borne with comparative impunity, while the repetition of it may keep up nausea and intestinal irritation, so as to cause injurious prostration. This is very likely to happen in cases of a chronic character, like whooping-cough. Although mild emetics are among our best remedies in this disease, and where the subject is old enough, a single emetic of antimony is frequently exceedingly beneficial, yet the repeated use of antimonial emetics, as is too often the case, appears to me to be a great error in practice. It is not indicated by the nature of the symptoms, and violates a great rule which ought always to be observed in the management of chronic cases, and that is, not to break down unnecessarily the strength of the patient.\* Again, in ordinary catarrhal affections in children, a good deal of mischief is frequently done by the continued use of expectorant mixtures containing this active article. The Hive Syrup of Dr. Cox, which is now in every family, and is given on the slightest occasions to infants, without even consulting a physician, has, I am convinced, done a great deal of harm. I say this without wishing to undervalue this preparation. In proper cases it is really a useful article, but persons out of the profession ought to know that its principal efficacy is owing to the quantity of Tartar Emetic which it contains, and that the indiscriminate use of it in cases where mild articles are required, must be injurious.†

4. As the effect of Tartaric Emetic on the system cannot always be measured by its emetic operation, even in the adult, this fact ought to serve as a caution against the too common practice of giving repeated doses of it to produce vomiting in children, when they happen to be narcotized. While it fails to vomit, it may still operate as a poison to the

\* Dr. Armstrong says that "it is a most notorious fact, that the whooping-cough is far more fatal in London than in the country; and I believe," he adds, "that this arises from the very free use of antimonial wine in London." Lectures. p. 248.

† Every ounce of Cox's Hive Syrup contains one grain of Tartar Emetic. My friend Dr. McCreedy has communicated to me the particulars of a case in which a child between four and five years of age, labouring under whooping-cough, manifestly sunk under the too frequent use of this article. The exhibition of it had been continued about eight days, when symptoms of intestinal irritation came on, accompanied with great general prostration, which in a few days ended the child's existence.

system. In all cases of this kind, the proper method of treatment is, not to push the emetic, but to endeavour to restore the sensibility of the patient, and then sometimes vomiting comes on at once.

5. In using Tartar Emetic in children, especial regard should be had to their constitutions. In those naturally delicate, and especially where the scrofulous diathesis exists, it should never be used if it can be avoided. Prostration is much more apt to ensue in them, and where the article is persisted in for any length of time, is sure to do harm. It is in such constitutions, when labouring under hooping-cough, and where the use of this article has been too long continued, that the baneful effects of it are most strikingly observed.

6. It is perhaps hardly necessary to say that if Tartar Emetic be an article of such danger, the younger the subject to whom it is given, the more likely is it to do harm. In children under a year, I should say, as a general rule, it ought never to be used. During that period, the powers of life are too feeble to bear so active a remedy, at the same time that all the beneficial effects of an emetic may be gained from the use of ipecacuanha, or even milder means.—*N. Y. Jour. Med.*, Sept. 1846.

#### TREATMENT OF SEMINAL LOSSES BY COMPRESSION.

M. Breschet recommends compression, in seminal losses, applied to the prostate gland, behind the perineum. For this purpose, a belt of leather was passed round the waist, and another descending over the perineum; a moveable compress was attached to the perineal strap, by which suitable compression could be made. The beneficial influence of this treatment is attributed to keeping the semen in its reservoirs, by which they become accustomed to the stimulus; and also to the modifying effects of pressure.—*Western Lancet*.

#### MIDWIFERY.

##### ON INCISION OF THE NECK OF THE UTERUS IN CASES WHERE, FROM THE CONTRACTION OF THE ORGAN, DELIVERY IS DIFFICULT.

By Dr. LABORIE.

The author commences his paper by stating, that whilst in many cases the progress of labour appears to proceed naturally, the membranes having ruptured, and the pains succeeding each other regularly, yet the os uteri does not dilate, and labour is indefinitely retarded. The woman being otherwise well formed, it is evident the obstacle to delivery is to be sought for in the cervix, which being rigid, does not yield to the contractions of the body of the uterus itself. In general, simple means, such as bleeding, baths, emollient and narcotic injections, are found sufficient to overcome this state of rigidity. But in a certain number of cases these means are insufficient, the labour is lingering, and the life both of mother and child is in danger. It is in such cases that incision of the neck must be had recourse to, in order to induce dilatation, and this has now been so often performed, as to rank as a legitimate operation.

Three cases occurring in the practice of M. Dubois are detailed by M. Laborie; to one of these we invite the attention of our readers, as the operation was followed by a result not usually met with.

A young well-formed girl was admitted into the Clinical Hospital in the month of June, 1844. She had suffered from hemorrhage at various times during the course of her pregnancy. On the 6th the pains of labour commenced, and continued during the whole day. In the evening the membranes burst, the neck was thick and rigid, and the os uteri dilated to the extent of two centimetres.

On the morning of the 7th, a face presentation was recognized. The cervix was still rigid, but dilatation had advanced to the extent of three centimetres. Although the woman was much weakened, M. Dubois still deemed it prudent to allow things to

take their course without interference. At half-past one, labour having made no advance, and the patient being much exhausted, incision of the cervix was then determined on. One incision made in the right side produced slight relaxation, but was followed by no other consequence worthy of remark. A second was immediately practised on the left side, but scarcely had it been done, when there ensued a copious hemorrhage of bright red blood. M. Dubois had immediate recourse to the forceps, but could not apply them owing to the rigid state of the cervix; he was equally unsuccessful with the lever. Injections of cold water were then had recourse to, but without effect in stopping the hemorrhage. The woman was now so exhausted that it was necessary to plug the vagina. The bleeding was thus stopped, but the patient continued in a state of extreme distress, and delirium supervened. Nevertheless the plug was removed in the course of half an hour; dilatation had now become sufficient, and labour was terminated by the forceps. All the unfavourable symptoms ceased, and the woman soon recovered.

M. L. remarks that cases of this kind are of rare occurrence, so much so, that M. Dubois had never met with one similar. He conceives that it must have been owing to the placenta being inserted near the mouth of the uterus.

The following rules laid down by M. L. as to the mode of operating are so important, that we give them *verbatim*:—"We have seen," he says, "M. Dubois have recourse sometimes to the scissors, in order to relieve the strictures at the mouth of the uterus. M. Danyau, on the other hand, invariably uses the bistoury. Should a preference be given to one or other of these instruments, or may they be used indifferently?"

"No decided answer can be given to the question, for either of them may be had recourse to according to circumstances, and according to the spot at which it is necessary to relieve the stricture. As a general rule, however, we should not hesitate to employ the bistoury, provided the cervix be not displaced; and we should choose that form of bistoury employed in removing the amygdale. When it is wished to practise an incision, either to the left, or anteriorly, or posteriorly, the index finger of the left hand must be introduced into the vagina, and its palmar surface applied to the spot where it is desired the incision should be made. The bistoury must then be introduced by means of the right hand, its flat surface sliding along the surface of the index of the left, until its point, passing within the cervix, comes to be in contact with the end of the finger. By means of a semicircular motion, the cutting edge of the instrument must then be directed perpendicularly towards the free edge of the orifice; should the latter be tense, the incision will be most readily executed, by giving to the instrument a sawing motion. We recommend all surgeons to limit the incision to the extent of a centimetre, conceiving it preferable to multiply them, should the desired result not be produced. If the incision be made to the right, the right hand must be used as the guide to the instrument.

"When the cervix lies far back, it is impossible to use the bistoury for the purpose of relieving its posterior lips; in such a case, recourse must be had to the scissors. The mode of operation is nearly the same; but in order to insure that the incision does not go beyond the extent of a centimetre, a most careful examination must be made by means of the finger. The scissors are also applicable in cases of retroversion, when the anterior lip has to be relieved, as well as for lateral incisions, in those cases in which the cervix lies very much to the right or left. It will be readily conceived, that in all such displacements, the most elevated edge of the orifice would be reached with difficulty by the bistoury, as its point would be in danger of coming in contact with the walls of the uterus, and wounding them. If the use of the scissors be entirely prohibited, a bistoury with a very convex cutting edge, must be made use of.

"The operator can, in general, immediately ascertain the effects of his incision; the cervix, from being hard and resisting, becomes more pliable. The influence of the operation should be particularly watched during a pain; it will then be found, that the head of the child, pressing strongly on the orifice, advances more perceptibly than before. The dilatation, in a quarter of an hour after the operation, is generally sufficient to permit of the application of the forceps, should it be thought desirable to terminate the labour in that way. But should this not be the case, new incisions must be had recourse to. M. Dubois affirms, that he has never failed in accomplishing his end by following these precepts.

"There is one counter-indication to the operation, which we wish particularly to specify, and that is, thickening of the cervix,

When the latter has not become thin, the operation, instead of being of advantage, may be the very reverse. In this latter case, hemorrhage is most to be feared; but the incision over such an extended surface may also be the primary cause of laceration so extensive as to prove fatal.

"Attachment of the placenta, near the cervix, may, from what we have previously stated, be also held as a circumstance sufficiently serious to forbid the operation."—*Monthly Journ. Med. Sci.*, June, 1846.

#### INFLUENCE OF THE QUALITY OF THE MILK OF THE NURSE ON THE HEALTH OF THE CHILD.

In our number for January last, p. 215, we gave an account of some interesting researches by M. Donné on this subject. The following cases related by M. Girard in the *Journal de Pharmacie* (Oct. 1845), are confirmatory of the conclusions of M. D.:—

A young lady, fifteen days after her delivery, found it necessary to procure a nurse for her child, and she succeeded in getting one whose milk was only fifteen days older than her own, and which presented all the physical characters of good milk. The nurse was besides young and in apparently good health. After a few days the child began to sleep ill; it was attacked with a troublesome diarrhœa, and sensibly fell off; shortly after this it rejected all its food, and the mouth got foul with aphthæ. As the ordinary medical treatment failed to relieve the child, the nurse's milk was examined, and was found to present the following characters:—The milk was neuter, of an ordinary consistence, and became slightly viscous by ammonia. The globules were very voluminous, and instead of appearing under the microscope of a brilliant pearly lustre, were of a dull white opal colour. The whole field of the microscope was scattered with rounded particles, of which the form was comparable to that of a flattened raspberry, and presented the characters usually assigned to the corpuscles of colostrum. A new nurse was, therefore, instantly procured, whose milk presented the microscopic properties of healthy milk. Within forty hours after the child had sucked this nurse the vomiting and diarrhœa had ceased, the aphthæ were greatly diminished, and a few days sufficed to restore the child to strength.

In another case where the mother was the nurse, the child, two months old, suffered from constant vomiting, was falling off, and had occasional comatose attacks. The milk of the mother, when examined by the microscope, was found to contain a considerable quantity of mucus. After a while the child vomited less, and the milk being anew examined, was found to contain fewer mucous globules. Soon, however, the vomitings and other disagreeable symptoms became worse, and to save the child it was absolutely necessary to change the nurse. Eight nurses were examined, but the milk of seven was rejected on account of containing globules of mucus, or granular bodies, or from having undergone some other change. The eighth nurse having apparently healthy milk, was chosen, and within two days the vomiting and other symptoms had disappeared, and did not again return.—*American Journal of Medical Science*.

#### AGE AT THE COMMENCEMENT OF MENSTRUATION.

(*Birmingham Lying-in Hospital*.)

Of 623 females, in one the catamenia occurred at nine years of age; 2 menstruated at ten; 15 at eleven; 46 at twelve; 87 at thirteen; 130 at fourteen; 115 at fifteen; 105 at sixteen; 67 at seventeen; 43 at eighteen; 10 at nineteen; and 2 at twenty.—*Western Lancet*.

#### INTERVAL BETWEEN MENSTRUATION AND CONFINEMENT.

(*Birmingham Lying-in Hospital*.)

In 11 cases there was an interval of six months; in 6 of

seven months; in 42 of eight months; in 110 of nine months; in 70 of ten months; in 2 of eleven months; and in 3 of twelve months. Ten patients had not menstruated since their previous confinement; three menstruated up to the period of quickening; and two menstruated during their entire pregnancy. (?)—*Ibid*.

#### MIDWIFERY STATISTICS.

(*London Lancet*, August, 1846, p. 191).—A reviewer in the March number of the *Archives Generales*, gives the following general results of midwifery statistical tables, recently published in the Italian and English Journals. In 47,116 labours, twice occurred 446 times (9 4.10 per thousand) and triplets four times (1 in 10,000). There were 40,233 head presentations, (969 per thousand) of which 40,046 were vertex, and 187 face. There were 1,065 breech or footling presentations, (27 per thousand) and 154 transverse ones (4 per thousand)—of these labours 46,632 terminate naturally (989 per thousand) and 484 (11 per thousand) artificially, viz.:—221 by means of forceps; 89 by craniotomy; 54 by turning, and 20 by vaginal or uterine hysteriotomy.—*Southern Journal of Medicine and Pharmacy*, Nov. 1846.

#### SURGERY.

#### ON THE NON-MERCURIAL TREATMENT OF SYPHILIS.

By Dr. SCOTT.

*Proceedings of the Medico-Chirurgical Society, Edinburgh.*

Dr. Scott made some observations on the importance which attaches to the history of Syphilis. No subject could be more full of interest, or prove more clearly the necessity of strict investigation into what are considered the most established doctrines in medicine. Thirty years since there was no doctrine in the profession which was considered to be so well founded as the treatment of syphilis by mercury. In England none presume to differ from the opinion of John Hunter, that the disease was incurable without mercury, and not only that the medicine was required to remove the disease itself, but that to cure the disposition to it, and to secure the constitution from its ravages, an extended course of mercury was required. Sir Benjamin Brodie still retains this opinion; and Dr. S. observed that he would not have probably called the attention of the Society to this subject, had he not observed, in the lately published Essays by Sir Benjamin, some remarks, which, from so high an authority, appeared calculated to lead to what appeared to him an injurious line of practice. Every now and then a dissenting voice had been raised against the mercurial doctrine, but the profession in general adhered to the opinion of John Hunter.

Heberden considered it as one of the four specifics discovered in medicine. Allusion was made to the remarkable paper of Dr. Fergusson in the *Med. Chir. Trans.* of 1813, and the observations made by him on the disease, as it appeared in Portugal, and the opinion of the German physicians.

Sir Benjamin Brodie, in mentioning the work of Mr. Abernethy on Pseudo-Syphilis, considers that the illogical conclusions and extraordinary assumptions contained in it have much diminished the value of this part of his writings. This work of Mr. Abernethy, Dr. S. considered a most useful one, as having led the way to the investigation from which such important results have been derived. Dr. S. then related his personal experience. In 1813 he was placed for a short time in Colombo, in charge of the venereal wards, in which the cases were all treated with mercury. Many of them he found were well in a few days, others in five or six, others in three weeks, periods too short to warrant the conclusion that they were venereal; they were therefore set down as cases of pseudo-syphilis. The number of these cases increased

with the field of experience, and in a few years the use of mercury was gradually resigned in almost every case of local disease. The secondary symptoms were few and slight, and never required an extended course of mercury. The same plan of treatment was also adopted with them, and in a few years Dr. Scott, then garrison surgeon at Point de Galle, entirely abandoned the use of mercury. The inference which he drew, however, was, not that the venereal disease was curable without mercury, but that the real disease did not exist in Ceylon. Dr. S. then described the miserable victims who were constantly found in military hospitals at that time, affected by extensive ulcerations, nodes, &c., who furnished a considerable number of the invalided and many deaths. Since mercury was abandoned, such cases have disappeared from the hospitals. In 1818 and 1819, Dr. Scott became acquainted with the results of the investigation which had been carried on in England, and since that time had entirely abandoned the use of mercury as a specific. He had found many cases in which it was required as an alternative. After some remarks on laryngeal ulceration; diseases of the bones, &c., which are still met with in practice, Dr. S. stated that he considered every case of local disease to be curable without mercury, and that under such treatment the secondary symptoms, when they did occur, were slightly and easily managed. In fact, the disease ran a certain course, modified by peculiarities of constitution, and required only the treatment adapted to such modifications. Dr. S. drew a contrast between two cases of secondary symptoms which had been under his care at the same time, of young men of the same age, and of irritable and unhealthy constitutions. Both were severe cases, but in one the patient recovered in two months, while the other, after many narrow escapes, could only be pronounced cured after the lapse of a year from the first attack.

Dr. MacLagan expressed his satisfaction that Dr. Scott coincided in the views Dr. M. had long entertained on this subject. His confidence in mercury as a specific in syphilis had been first shaken when, after he was a graduate in medicine, he attended for some months the Lock Hospital in London, under Mr. John Pearson. There, every variety of form in the disease presented itself, but in very many cases seemed to be aggravated, rather than benefited, by the mercurial treatment; and though Mr. Pearson, in his lectures, and in his conversations with his more advanced pupils, still advocated the necessity for mercury in the cure of syphilis, he often expressed his doubts whether in many constitutions the use of mercury had not been more injurious than beneficial. While afterwards serving with the army in the Peninsula, and in charge of a Portuguese brigade, he had also been much struck with the apparent success which attended the treatment of the primary forms of the disease in the Portuguese soldier, by topical remedies alone, or merely with the additional use of Lisbon diet and drinks, and sometimes without either. He saw none of those cases of secondary symptoms in an aggravated form, to which his late lamented friend, Dr. William Fergusson, has alluded in his paper in the Transactions of the Medico-Chirurgical Society of London, but Dr. M. was then disposed to attribute the success of the non-mercurial treatment among the Portuguese to some peculiarity in the climate, and in the constitution and habits of the natives, which he afterwards had occasions to remark in a very different disease, Traumatic Tetanus, which, with few exceptions, assumed a less fatal form among the Portuguese wounded than among the British. On his return to Edinburgh, after the peace, Dr. M.'s attention had again been directed to the subject by the opinions long expressed by his early teacher Professor Thomson, and by the opportunities of seeing the practice in the Depot Hospital in Edinburgh Castle, under Dr. Thomson's charge, as well as in that, and in Regiment Hospitals, under Dr. Hennen, Mr. Johnston, and Dr. Bartlett of the 88th regiment, the latter of whom

published an excellent Thesis at his graduation on the non-mercurial treatment. This treatment had also been adopted in the practice of Staff-Surgeon Guthrie, and in that of Mr. Rose of the Coldstream Guards, and since very generally and successfully throughout the army. Since 1818 Dr. M., with a few exceptions where the patients' scruples afford full explanation, demanding its modified use, has adhered to the non-mercurial plan of treatment both in dispensary and in private treatment, and in no one instance has had reason to regret it. Many who were then so treated are his patients still, fathers of families enjoying, as well as their offspring, excellent health, and without the occurrence in the period that has elapsed of any secondary symptoms of an aggravated form. On the other hand, he has seen too many cases where the use of mercury to its full extent has been productive of constitutional injury of the most serious character.

Dr. D. MacLagan alluded to the success which attended the practice of Dr. Fricke in Hamburg, and Professor Krukenberg in Halle, in corroboration of the benefits of the non-mercurial system of treatment.

Dr. Bennett stated, that the last account of Dr. Fricke's practice, with which he was acquainted, is to be found in Sir Alexander Crichton's Commentaries on Medicine. This treatment had been tried on a large scale in the various garrisons of France, Germany, and Sweden, and reports had been given to the various governments, amounting altogether to upwards of 80,000 cases, the general results of which were quite in accordance with the experience of Dr. Scott. He thought that one of the best evidences of the non-mercurial treatment existed in the fact, that those dreadful secondary and tertiary cases which were formerly so common, are now seldom met with, and that pathological specimens of syphilitic bones, although common in museums, are at present scarcely to be obtained.

Dr. R. Mackenzie was of opinion that the observations which had been made were directed rather against the abuse than the use of mercury. As surgeon to the Lock Hospital of Edinburgh, he had seen many cases where the sores, however obstinate, had at once improved in character as soon as the constitution was affected with the drug. He alluded to two cases especially, in which this was observed, where mercury was given for iritis, but in which obstinate chancres on the genitals also began to heal as soon as the medicine produced its physiological effects.

Dr. A. D. Campbell stated that mercury was also necessary in the syphilitic eruptions of children.—*Med. Chir. Review.*

#### CASE OF WOUND OF THE HEART.

By G. W. RICHARDS, M.D., Prof. of Theory and Practice, Indiana Medical College.

S. S., of Camillus, N. Y., aged 7 years, received a wound between the 7th and 8th ribs, at or near the sternal extremities, by a thrust from a narrow but long-bladed penknife. A jet of blood followed the withdrawal of the knife, which was instantly stopped by the finger of the mother. Syncope instantly followed, but he soon rallied. I saw him ten minutes after the accident. His pulse was feeble; he was pale, and bathed in a cold sweat. He was rational; his breathing free, without any irregularity of pulse. The syncope was repeated on the same day, and the day following, without any aggravation of the symptoms. From this time he became better, and resumed his school, was playful, and finally manifested his usual state of health. Three weeks and four days from the accident, he was taken with a sudden and fatal syncope.

*Autopsy twenty-four hours after Death.*—Wound through the integuments healed. Some extravasation through the superficial fascia. A cicatrix of the size and form of the knife-blade was found on the pericardium, which contained eleven ounces of blood, the serum of which was separated

from the fibrin and coloring matter as perfectly as could have taken place in a bowl. There was an opening in the anterior coronary artery. When was this blood discharged? Was it gradual, or was it sudden? Was it all discharged at the period of the first syncope, or was the shock from the wound upon the system sufficient to produce such syncope? Or was the fatal syncope from hemorrhage produced from sloughing of the artery at the moment of death? Or was the hemorrhage gradual?

My own opinion is, that the wound produced syncope independent of hemorrhage; that this was trifling, if any, at first. The subsequent fits of syncope were the result of the wound on the nerves of the heart. And finally, that the fatal hemorrhage was sudden and instantaneous. The patient would have recovered perfectly if sloughing of the coronary artery had not taken place. Such cases do recover, in all probability. We hear of cases where buffaloes have been killed, and rifle or musket balls found lodged in the substance of the heart; having entered a long time previous to death.—*Boston Med. and Surg. Journal.*

### CASE OF RUPTURE OF THE HEART.

*And Compound Fracture of the Thigh, in which the Patient survived twenty-eight hours and a half.*

Reported by E. D. FENNER, M. D.

Wounds of the heart, almost inevitably fatal, are still very curious and interesting from the fact, that death does not always immediately take place; but life may be maintained for hours, nay, even several days, after a severe injury of this vital organ. Several such instances are recorded in the writings of the Profession.

In the case I offer, death did not take place until about 28½ hours after the accident. Perhaps it may be doubted, whether the auricle was ruptured at the moment of falling; it might possibly have given way subsequently. Of course this must remain a matter of conjecture. I can only give the symptoms, and the appearances after death.

John Lugo, a robust Italian sailor, aged about 30 years, was brought to the Charity Hospital at 2 o'clock, A. M., Aug. 28th, 1843. He had fallen from a window in the fourth story of a house, down upon the pavement below. This occurred about two hours previous to his entering the Hospital.

The house-surgeon found him very much prostrated—pulse very small and weak—he was bathed in cold sweat, but was perfectly clear in his intellect, and gave a correct account of the accident. The right thigh was broken just above the condyles, and the upper part of the bone, exposed about three inches, rested over the Patella.

The leg being flexed upon the thigh, extension was made; the exposed end of the bone was drawn within the lacerated integuments, and the limb put in as comfortable a position as possible. A stimulant was ordered, to produce reaction, and the patient was left till morning.

In the morning considerable reaction had taken place—he was feverish and thirsty—body hot, but extremities rather cool—very restless, but did not complain of his head—intellect still clear. The visiting surgeon thought him in such a desperate condition that there was no hope of benefitting him. The stimulant was discontinued, and cool drinks ordered in its stead. The limb was adjusted well enough, and he was not disturbed. During the morning he rather overloaded his stomach with fluids, and vomited. The ward-nurse informed me that he now complained chiefly of his right shoulder. He had pain there, though nothing was observed amiss in the part.

In the evening he became much worse—after drinking some tea, he vomited again. As the night advanced he gradually sank, and died with but little struggle at half past four o'clock.

*Autopsy.*—The examination of the body was made at 11 o'clock, A. M., August, 29th.

The broken thigh was livid, and very much swollen up to the groin.

As mentioned above, the bone was broken obliquely, just above the condyles. These last were completely split apart. There was no fracture of the patella, or bones of the leg.

*Chest.*—Upon raising the sternum, a large quantity of dark

fluid blood was discovered in the right pleural cavity, in immediate contact with the lung. In searching for the source of the extravasated blood with my hand, I discovered an orifice large enough to admit the end of a finger, opening directly into the left auricle of the heart. This orifice was behind the pericardium—between the mouths of the pulmonary veins, and so close to the upper one, as almost to involve it in the rupture. It was somewhat oblong, and looked as if it had been torn. The heart was in other respects perfectly sound.

I measured 17 oz. of fluid blood out of the chest, and there was, perhaps, an ounce more that was not taken up. The lungs seemed perfectly sound. I now examined the abdominal viscera, but found nothing extraordinary or unsound, unless, perhaps, an unusual friability of the liver. The gall bladder contained 3 iv. of healthy bile, and there was yellow bile found in the stomach and intestines. The extraordinary lesion of the heart above described, was witnessed by three other physicians, who were in the dead-house at the time.

The brain was not examined—the symptoms during life indicated no serious lesion of this organ.

It may not be uninteresting in connection with this report to give the following extracts translated from *Roche & Sanson's Elements of Pathology.*

"RUPTURE OF THE HEART.—Rupture of the heart is sometimes the consequence of softening of its tissue, or of its ulceration; and consequently one of the terminations of its inflammation; but it sometimes takes place without antecedent morbid state of this organ, and examples of it are not very rare. Sometimes it is produced by external violence, such as the passage of the wheel of a carriage over the thorax—anon it is the consequence of a violent effort—sometimes it is brought on by excess of fury, or by an attack of epilepsy, or by coition—in fine, in several cases it is some way spontaneous, and happens without appreciable cause, whether it succeed a morbid state of the heart, or happens spontaneously without anterior alteration of the tissue of this organ.

"It is nearly always in old persons that it is observed. It is superfluous to add that when it is the product of external violence, a fit of passion, an attack of epilepsy, or the venereal act, the age of the subject is immaterial. The promptness with which this affection produces death ordinarily, does not allow of a diagnosis, and renders it moreover useless.

"M. Bland thinks, however, that one can recognise the following symptoms, viz: the sudden manifestation of a sensation of boiling heat, of acute and deep seated pain, of a sort of constriction, or of disagreeable weight in the region of the heart, immediately followed by great anxiety, extreme weakness, pallor of the countenance, alteration of the features, the frequency and smallness of the pulse, which can scarcely be perceived, and finally by speedy death.

"Are these symptoms pathognomic? It is permitted to doubt them; and were they so—the rapidity with which death supervenes in nearly all cases, does not even allow them to be collected.

"Rupture of the heart takes place most commonly in the left ventricle, and towards the point, probably during its contraction. We often find the tissue of the heart about the rent, pale, slightly red or grey, softened, easy to crush between the fingers, or to tear; the borders of the opening uneven, ragged, and ordinarily parallel to the direction of the fibres of the heart.

"It is not rare to meet with the ventricle thickened at its superior part, and attenuated at the point, where the rupture takes place—sometimes the fibres of the heart are corroded or ulcerated in the portion broken or torn. In short the rent sometimes appears under the form of a crack or narrow fissure, more or less oblique, and without any morbid alteration of the parietes of the heart. Often there exists many of these fissures at the same time, and then, excepting that which has produced death, they are superficial. In all cases we find a greater or smaller quantity of clots of blood in the pericardium.

"Rupture of the heart may, however, not bring on death; it is necessary for this that it be very inconsiderable. It may then happen that a clot closes the opening, hardens there, adheres, and that even the edges of the orifice contract adhesions with the pericardium; there exists an example of this fact. The symptoms will be then those of carditis, or pericarditis, and the treatment that of these affections.

"Except in this case, all treatment is useless—nevertheless if the death is not sudden, we may have recourse to abundant



bleedings, general and local, as is practised in wounds of the heart.

"There is another rupture of the heart which bears only upon the columns of the ventricles; much more rare than the preceding; it was described for the first time by Corvisart; it is ordinarily after violent efforts that it happens. The symptoms are only well marked when it occurs on one of the pillars, which proceed from the free borders of the tricuspid and mitral valves. Then we see the individual suddenly pass from a state of health to the most serious morbid state; he is taken immediately with an extreme suffocation, and cast into a state of inexpressible anguish; his pulse becomes small, intermittent, irregular, and in placing the region of the heart, one only feels a confused pulsation. The patient ordinarily dies in a few hours; but sometimes he sinks slowly, with the symptoms common to all the diseases of the heart.—This rupture is nearly always mortal. The treatment is the same as in carditis, and consists principally in the employment of bleedings, general and local, absolute diet, diluent or acidulous drinks, and perfect repose of the body and mind.

"**WOUNDS OF THE HEART.**—An opinion which some surgeons entertain with the vulgar is, that wounds of the heart are necessarily and instantaneously mortal. Others, approaching nearer the truth, think that those only are fatal which penetrate the cavities of the heart, and that we can cure those which implicate only the thick part of the muscular parietes of the cavities. To support this last assertion they rely upon observations, the most remarkable of which is beyond doubt that which has been reported by M. Latour, and of which the subject was a soldier, in whose heart was found six years after the cure from his wound, a ball imbedded in the right ventricle, near the point of the organ, covered in part by the pericardium, and placed upon the septum medianum.

"But the most of surgeons, relying upon numerous and authentic observations, think that wounds of the heart are not always either instantaneously or inevitably mortal, what portion of the organ soever, be the seat of the wound. Individuals have been seen who have survived many hours, even many days, the opening of one or the other ventricles; and what is very remarkable is, that in some of these cases the wounds were of very large size. Thus Paré saw a man, who, having been wounded in a single combat, continued to pursue his adversary and only fell at a distance of 200 paces, although he had in his heart a wound large enough to admit a finger.

"Courtial saw a man in whom the thrust of a sword had traversed the left ventricle, making a wound so large that at the post mortem examination one could introduce the little finger into it; and who, nevertheless, went 500 paces, and only succumbed after about five hours without having experienced oppression, or difficulty in the exercise of speech.

"Other observations, very numerous, prove that narrow wounds only cause death after many days.

"Saviard saw one which passed from the right to the left ventricle, traversing the septum, which only produced death after the fifth day.—Among these one of the most interesting, without doubt, is that reported by Le Range, in one of his notes to the edition which he has given of the *Observations on Surgery* by Saviard. The subject of this observation is a young man, who having been wounded by the stroke of a sword, and having immediately presented all the symptoms of a lesion of the heart, was happily put beyond danger of the first symptoms, and commenced leaving his chamber and walking about on the seventh day, but expired on the eleventh day from having indulged a wish to go to a cabaret. The opening of the body, done in the presence of Ferriand, proved that the stroke of the sword had traversed the lung, the pericardium, the right auricle, and the aorta through and through. Finally, other observations proved that wounds of the heart can be cured.

"Without speaking of animals slain in the chase, in the hearts of which have been found portions of arrows, or balls, which have been fixed there long since—without speaking besides, of individuals, who having presented all the rational symptoms of wounds of the heart, have been nevertheless cured; we borrow from Durand, an observation which proves incontrovertibly this assertion, viz: "In the month of December 1769, during a very cold time, a cavalier of the royal regiment, after having received the thrust of a sword in the breast, and lost much blood, remained in a moribund state

from Tuesday till Saturday, couched upon a ladder, in the midst of the ruins of a demolished quarter.—The cold was such that this unfortunate individual had both legs frozen by it, and the mortification which followed was the cause of death—he had been hurried into death by the loss of blood, of his strength, and by the cold. The right lung had been pierced, and the right ventricle of the heart opened. The wounds had cicatrized during the five days that these viscera had ceased their functions. He lived yet ten days at the hospital, and would have withdrawn from it, if he could have proceeded methodically with the treatment of the gangrene of his legs."

"There results from these facts, that although the prognosis of wounds of the heart, is generally very serious, nevertheless we should not completely despair of the life of patients when the wounding instrument is small and sharp. The position of the heart renders the wounding of certain portions of it more easy than others. thus the right ventricle is undoubtedly, the most frequently affected by wounding instruments; after this, the left ventricle—and after these, the auricles.

"The diagnosis of wounds of the heart is always easy. The observation of Courtial that we have cited above, prove that the state of the wounded cannot present satisfactory signs of it; nevertheless in the most of cases, besides conjectures that can be drawn from the situation, the direction of the wound, and from a knowledge of the depth to which the wounding instrument has penetrated; the wounded man presents certain symptoms, which are regarded as signs of wound of the heart, such as dyspnoea, anxiety, frequent faintings, smallness and irregularity of the pulse, pain behind the sternum, pallor, cold sweats, and the ordinary symptoms of effusion in the cavity of the pericardium, or the breast."

Since the foregoing observation was made, another very remarkable case of wound of the heart has occurred in this city, the notes of which have been kindly furnished me by the attending-surgeon, Dr. A. Mercier, and are as follows.

*Case.*—In 1845, a young man of this city, aged 23 years, in a personal rencontre, was stabbed with a double edged dirk, which divided the cartilage of the seventh rib, and penetrated the left ventricle of the heart, in an oblique direction, making an opening more than an inch in width. As soon as his antagonist had inflicted the blow he attempted to escape, and ran off at the top of his speed. The wounded man followed in close pursuit for a distance of about 125 yards, when he sank upon the ground very much exhausted, but still able to tell who wounded him. A friend who was going out to the spot where the altercation took place, but had not reached there before the chase commenced, followed the combatants as fast as he could, but only overtook the wounded man after he had run the distance above mentioned. The hemorrhage was profuse from the instant of the stroke, for the blood could be traced along the pavement the whole way. He was taken home, and Dr. M. arrived to see him about three quarters of an hour after the accident occurred. Dr. M. found him in a state of insensibility, his heart beating feebly, and only about four or five times in the minute. There was no pulsation to be felt at the wrist. On removing his clothes, about two pounds of clotted blood were found within the shirt—the wound was closed by a clot, and the hemorrhage thus stopped. Stimulants were poured down his throat, and other means used to produce reaction, which began to be evident in fifteen or twenty minutes—he spoke, answered questions, recognized his father and friends, and was conscious of his perilous situation. His pulse now became perceptible at the wrists, beating about twenty-two to the minute. He remained in this state for more than two hours after Dr. Mercier first saw him, and then suddenly expired, more than three hours after receiving the fatal stab. At the instance of the Coroner, Dr. Mercier made the post mortem examination.

*Autopsy.*—On raising the sternum a very firm coagulum was observed to extend in the course of the wound, from the external orifice clear into the ventricle, closing the wound completely. As before stated, the wound was more than an inch wide, and would freely admit any of the fingers. The pericardium contained six ounces of clotted blood. No blood was found in the pleural sac, as it had not been opened. The examination was not carried any farther, as it was already perfectly satisfactory.

Thus have I detailed the particulars of two cases, almost as remarkable as any given in the foregoing interesting quotation. The records of surgery abound in instances where men have survived for a longer or shorter time the most dangerous wounds, whilst on the other hand, many have been known to die from ap-



parently the most trivial. The above cases are only given to show what serious injuries so vital an organ as the heart may sustain without causing immediate death.—*New Orleans Medical and Surgical Journal*.

### CURE OF ANEURISM BY ELECTRO-PUNCTURATION.

M. Pêtréquin, Surgeon-in-chief to the Hotel Dieu of Lyons, and Prof. of Med. in the same city, has lately reported two successful cases of this kind,\* in confirmation of those reported on a former occasion.

The first was a bad case of popliteal Aneurism, as large as a goose-egg, in a patient 70 years of age, treated by Dr. L. Ciniselli, Surgeon of the Hospital of Cremona. The operation was performed on the 22d of January; the current from a small galvanic pile was passed through the aneurismal tumour by means of four needles introduced into it. The force of the arterial wave was checked, during the operation, by a compress and, subsequently, a bladder filled with ice was laid on the tumour to favor the coagulation. Immediately after the operation there was but little sign of amelioration; but twenty-four hours afterwards the pulsations were found to have ceased; and the tumour from that time gradually disappeared.

The second case, treated by M. Pêtréquin himself, was of the humeral artery, at the bend of the elbow; the result of phlebotomy. It was as large as a hen's-egg and the patient was about 30 years of age.

By means of four sharp acupuncture needles, introduced at four opposite points of the tumour, the electricity of a voltaic column of 60 elements excited by cloth moistened with sal amoniac, was passed through the sac. The artery was compressed, during the operation, by an assistant. The current was passed successively through the two pairs of needles.

The tumour began to be diminished in ten minutes and the fluid felt as though it contained coagula and had become of a pasty consistence. In fifteen minutes the tumour had become hard; and pulsations could no longer be felt in it although the compression of the artery was removed. The operation was, however, continued for five minutes longer. A compress was then placed on the artery and a bladder of ice on the tumour.

The cure was fully completed, after some time of treatment for local inflammation of the part and suppuration of the aneurismal sac.—*Western Lancet and Medical Library*.

### MODE OF ARRESTING HEMORRHAGE FROM LEECH-BITES.

Dr. Houston recommends the following plan for preventing excessive bleeding from leech-bites, which he has found invariably successful. Take a small pinch from the felt of a beaver hat, pile it on the bite; or if there be several points, pile one respectively on each, and spread over the whole a piece of thin muslin, drawing it tightly, so that any blood which flows must pass directly through both; then with a fine sponge drying up the blood as it oozes out, and in a short time both felt and muslin will have become dried by the coagulation of the blood in the thin fine meshes, and the hemorrhage arrested. The muslin may then be all cut away, except the adhering points, which, in the course of a couple of days, will of themselves drop off, leaving the parts healed, and free from any such disfiguring marks as those which necessarily follow cautery, caustics, or needles.—*Dublin Hospital Gazette*.

\* Comptes Rendus, &c. T. XXIII. 306

## PHYSIOLOGY.

ON THE CAPACITY OF THE LUNGS,  
And on the Respiratory Movements with the view of establishing a precise and easy Method of detecting Disease by the Spirometer.

By JOHN HUTCHINSON.

*Proceedings of Medico Chirurgical Society, April 23.*

After giving an introduction to the subject by a history of respiration, from the earliest period to the present, with an account of what researches have hitherto been instituted upon this inquiry, the author commenced by dividing the different portions of inspired air under certain heads, without which the subject of respiration becomes very complicated and difficult of expression. He remarks—"The latitude of movement performed by the walls and floor of the chest, to maintain a constant current of air through the air cells of the lungs, admits of three common degrees of expression:—1. Extreme expansion, or enlargement; 2. Extreme contraction, or diminution; 3. An intermediate or quiescent state.

"These divisions necessarily superinduce a difference in the quantity of air respectively drawn in or thrown out of the lungs." These movements or portions of air he described, for perspicuity, under five heads:—

1. Residual air; 2. Reserve air; 3. Breathing air; 4. Complementary air; 5. Vital capacity.

This division was clearly illustrated by different diagrams, and may be expressed best in the author's own language:—

"It is well known that the lungs are not capable of being emptied by the most violent muscular effort; therefore, at all times as long as the lungs maintain their natural structure during life or death, a certain quantity of air remains in these organs, which is termed 'residual air,' and over which we have no control.

"Reserve air."—The gentle respiratory movement regulating the ordinary breathing, is an intermediate effort between extreme voluntary thoracic contraction and dilatation, and hence it is that a portion of air always remains in the lungs after the gentle expiration, which may be thrown out if required; to it I have applied the name 'reserve air.'

"3. Breathing air."—That portion required to perform the ordinary gentle inspiration and expiration, which we term, 'breathing air.'

"4. Complementary air."—That portion which can at will be drawn into the lungs by a violent exertion, beyond the moderate effort of ordinary breathing, which constitutes the deepest possible inspiration, is only occasionally added if required; to this we apply the term 'complementary air.'

"5. Vital capacity in all these three latter divisions combined, being the greatest voluntary expiration, following the deepest inspiration, to which I apply the term 'vital capacity.'

"These divisions differ in their character. The residual air is independent of the will, and always in the chest. The reserve air, to use a simile, is a 'tenant at will.' The breathing air constantly passing out and in the chest. The complementary air seldom in the chest, and when it is, only so for a brief period." The connection of these with diagnosis in disease here followed, and the whole subject of the paper, resolved itself under the following heads:—1. The quantity of air expelled from the lungs in connection with other physical observations on the human frame. 2. The absolute capacity of the thorax, cubic and superficial measurements. 3. The respiratory movements and mobility of the chest. 4. The inspiratory and expiratory muscular power. 5. The elastic power of the ribs, and the voluntary muscular respiratory power. 6. The function of the intercostal muscles. 7. General and practical deductions in reference to detecting disease in man.

Each of these subjects was fully treated, and much valuable information, both for the physician and the physiologist, will be there found, but which we must here pass over, and simply add, that Mr. Hutchinson has examined upwards of 2000 cases with reference to respiration, and that the quantity of air exhaled from the lungs is affected by four circumstances—height, weight, age, and disease. By height, in the arithmetic progressions of eight cubic inches for every inch of height. By weight, nearly in the ratio of one cubic inch for every pound to eleven stone, and then

decrease nearly in the same rotation up to fourteen stone. By age (from thirty-five to sixty-five), a decrease of rather more than one cubic inch per year.

Under the second head, much curious and new matter appeared in relation to the actual capacity of the thorax and the vital capacity, and the relative size of the chest to the body. Under the third head, the respiratory movements in health and disease, as measured by the spirometer. Under the fourth head, the muscular power in relation to health. Under the fifth head, entirely new considerations of the combined forces of elastic or involuntary power, and muscular or voluntary respiratory power. Under the sixth head, the intercostal muscles being true expiratory muscles. Lastly, general and practical deductions.

Here Mr. Hutchinson gave many interesting cases of the spirometer detecting phthisis pulmonalis, before the ordinary means now in vogue, and many other subjects relative to the application of his instrument to disease generally in the human frame, which he demonstrates as very broadly marked by twenty-five or thirty per cent. Mr. Hutchinson's spirometer was exhibited before the Society, and its methods of application explained.

Dr. Taylor considered the Society much indebted to Mr. Hutchinson for the laborious investigations which he had undertaken, and now submitted to them with such ample illustrations. From the fact that an abstract only of this paper could be read, and from the novelty and the variety of the views submitted to them, it could not be expected that the members could appreciate at once the true value of the observations of the author. The importance of the results arrived at could not be doubted, if they should turn out to be true; but the result of an investigation so entirely original ought to be received with due caution, until they have been confirmed by other observers. Some very curious results arrived at by Mr. Hutchinson, might be adduced, to show the great importance, in a science like medicine, of our being guided by observation alone; for although they are not inconsistent with any known principles, they are very different from the conclusions at which we should have arrived by *a priori* speculation; such, for instance, is the law that the quantity of air which can be expired bears but little relation to the girth of the thorax, but is influenced mainly by the height of the individual.

Perhaps the most important fact discovered is this—viz., that if the height of the individual be known, the number of cubic inches of air which he is able to expire in the healthy state can be calculated with tolerable accuracy. The principle of this calculation is founded upon a great number of observations, and we have just had the fairest and most convincing proof of its correctness. The gentleman who has just now offered himself to be experimented upon, has actually expired within a cubic inch of the quantity of air calculated beforehand.

The application of this principle in the diagnosis of disease is most important. Mr. Hutchinson has found that persons who are subjects of phthisis expire a quantity of air very much less than they ought to do if healthy. In one interesting case (that of Freeman), the quantity of air expired when he was in health was actually measured, and the experiment being repeated some time after, this man was found to expire ninety cubic inches less than on the first occasion; at this time no disease in the lungs had been detected by two experienced auscultators; the man, however, was not in good health, and some month afterwards he died of phthisis, as proved by post-mortem inspection. I myself examined a number of consumptive patients by Mr. Hutchinson's apparatus; I have found them to expire much less air than, by calculation, they ought to do if in health. Another singular and very important result is this, that the quantity of air which a man can expire is not necessarily proportioned to the absolute size of his lungs or the number of cubic inches of space in his chest. We have seen, in the casts exhibited, that the lungs of one man who expired a large quantity of air were actually much smaller than the lungs of another man who expired a far less quantity. Mr. Hutchinson believes that the quantity expired depends less upon the size of the chest or lungs than upon the mobility of the thoracic walls. The diminished quantity of air expired in phthisis seems to result less from the space occupied by the tubercular deposit than from the restriction which is in some way imposed upon the thoracic movements. The bulk of the tubercular deposit in one case was only equal to one cubic inch, whilst the diminution in the quantity of expired air was forty-seven cubic inches. Hence, by this apparatus, it may turn out to be possible for us to distinguish phthisis at an earlier period than by

any other means; and this has been actually proved in one of the instances adduced.

The same principle, however, complicates very much the application of Mr. Hutchinson's results in the differential diagnosis of disease. Many diseases, without the chest as well as within it, may limit the respiratory movements, and so lessen the quantity of air expired. So that, for the present, a great diminution of the expired air can only be considered to indicate the existence of disease somewhere; the seat and nature of this disease must be determined by other means, unless further investigation shall render the indications of the spirometer more precise than they are at present. As much has been accomplished in this direction as we could look for from one individual, and in a limited time. Mr. Hutchinson has done enough to make it incumbent upon physicians generally to prosecute the investigation, so as to lead the confirmation of invalidation of his views, as well as to their extension and limitation in particular cases. In the hospital to which I am attached, one of the spirometers has been purchased, and a certain number of observations have been made, which, as far as they go, quite confirm those of Mr. Hutchinson.

A great advantage in the use of the spirometer in disease of the chest is this, that comparatively little education is required for it. The practice of auscultation requires a long education and constant application; the spirometer may be used, for the purposes to which it is applicable, with very little previous study. Hence the importance of the instrument, as pointed out by the author, to army and navy surgeons, to insurance companies, and in private practice, generally.

After the paper had been read, Mr. Hutchinson illustrated the method of making an examination. Taking himself as an example, he observed, that though his chest was small, (thirty-three inches in circumference,) yet, according to his mere height, his vital capacity was 260 cubic inches; noting, at the same time, that the person being examined should hold himself as erect as possible, the least inclination of the head causing a difference in the quantity of air expired. A Fellow of the Society having complied with the request to come forward and submit himself to experiment, his height was found to be five feet five inches, and accordingly the quantity of air he could expel should, by the tables, be 206 cubic inches. The gentleman then breathed into the spirometer, and actually produced 205 cubic inches, which making allowance for temperature, made it 206 cubic inches. This was so satisfactory, as to leave no doubt on the mind that these tables must have been calculated with care, and upon an extensive number of cases. Many questions were put to the author upon the different subjects of which the voluminous paper treated.

Dr. Chowne requested to know whether any explanation could be given for the following curious phenomenon, which was strikingly opposite, touching the relation of the chest to the respiratory power,—Why the mere height bore so strict a relation to vital capacity, and not to the size of the chest.

Mr. Hutchinson, in reply, observed, that he had found this hitherto inexplicable. It was a fact, that the taller a man, the more air he could expel from his lungs; and he considered that this quantity was directly dependent upon the extent of thoracic and abdominal mobility, and not upon the actual capacity of the cavity of the thorax. He referred to a series of casts taken from the chest—the heart and lungs having been first removed, and their space filled up with plaster of Paris. He exhibited one cast, taken under most favourable circumstances; the individual while living, and apparently in health, he had measured; his vital capacity, making correction for temperature, is 251 cubic inches; while the actual cubic space in his chest for the organs of inspiration was only 248 cubic inches, being three inches less than the actual quantity breathed; therefore this marked a respiratory mobility exceeding the actual capacity of the thorax. Therefore, while the spirometer measures the vital capacity, it becomes at the same time a measurer of the mobility of the parts concerned in the breathing act. Now to measure the mobility is to determine the respiratory movement, which he illustrated by drawings as extending over the whole trunk of the body down to below the knees; therefore whatever interfered in these parts to prevent the range of movement, would, at the same time, be indicated upon the spirometer, and collateral observation would determine more minutely the locality affected. He could not here omit mentioning another circumstance which militated against an opinion prevalent at this day. It was commonly believed that adhesion of the pleura prevented the free movements of the chest; but this he believed was not the case, for he had found that in

the instance just mentioned, where the mobility exceeded the actual thoracic cavity, there was no part of the pleura pulmonalis but was firmly adherent to the pleura costalis. So much was this the case, that the heart and lungs could not be weighed separately, their structure being totally destroyed in removing them. Here was a mobility exceeding by three cubic inches the actual space allotted for the heart and lungs, with the parietes and floor of the chest firmly adhering to the lungs. He believed that the latest movement of the ribs was so little, or the latent movement between the contents of the chest and its boundaries so limited, that no adhesion interfered with the respiratory act. This was worthy of attention, the contrary opinion appearing to prevail at present.

Mr. Hutchinson pointed to a cast of a chest measuring 457 cubic inches, while 202 cubic inches of air only could be exhaled; or not one half of the space allotted for the organs. This man was corpulent, and only 5 feet 8 inches in height; therefore his mobility was mechanically impeded. Why this mobility increased with height, he felt as much at a loss to account for as he did the first day he commenced the investigation. But he was confident it was so, as upwards of 2000 cases went to prove it.

Mr. Hutchinson then pointed to a curiously interesting table, where all the heights, increasing in the arithmetical rotation of inch by inch between five and six feet, were drawn by scale, and upon these the relative depth and breadth of the chest, so that the whole proportion of the frame was exhibited. The thoracic cavity was seen not to increase in any visible relation with the increasing height; the taller men here exhibiting smaller chests, in all dimensions, than the shorter. Moreover, it was remarkable to observe how shallow the chest was, the average depth, from the apex of the lungs to the diaphragm, being only from seven and a half to eight and a half inches; and that the shortest men (five feet four), who could blow least, had the deepest chests of all the other heights. The absolute length of the back also appeared to have nothing to do with the question, for he had taken the sitting height and the standing height, which averaged three feet, whatever was the standing height; and that men whose standing height was many inches shorter than others, who sit taller, yet blow less out of the lungs. Here Mr. Hutchinson said he must quit this part of the subject, "for years have I studied to determine this question, but in vain."

Mr. Hutchinson was asked upon what grounds he imagined that the chest in deep expiration did not enlarge by the diaphragm descending: this being the present and general opinion of physiologists. He replied, that he had invariably found, in health, that when a man stood and made a deep inspiration, the movements were as described by the diagram already referred to—viz., that the chest, in this violent effort, enlarged its dimensions almost entirely by the ribs; the sternum advanced, the ribs and shoulders were elevated; the abdomen receded, compressing the abdominal viscera; the lateral enlargement of the chest was very small, chiefly increasing in the antero-posterior diameter. Now, he considered himself at a loss to conceive how the diaphragm could descend and the abdominal muscles recede; the point of the recti muscles, in deep inspiration, would be found as posterior to the point of these muscles in ordinary breathing; therefore the diaphragm must be pushed up, and it was perfectly possible to conceive the diaphragm to enlarge its circumference without descending; for the convolution of this muscle was such that its area was nearly quadruple that of the sectional area of the chest. The ordinary breathing was entirely abdominal or diaphragmatic in men, but the contrary in deep breathing. The chest appeared to have two ways of enlarging—one by its diaphragm, and the other by its ribs; but these did not act in concert, either by one or the other separately. This observation must not be made in the recumbent position, for then the back of the body becomes fixed, and thus medical men might be led into an error in examining the breathing movement of a patient in bed, when the very position altered their motions. From a knowledge of this, he was inclined to believe that this fixing of the back in the recumbent position caused patients labouring under dyspnoea to prefer the erect position for breathing.

The breathing in women differed from men only in one respect: their ordinary breathing being chiefly costal, and not abdominal. Whether this was to allow for gestation or not he could not say; he thought there was some doubt of its being caused by the peculiarities of their costume.

Mr. Hutchinson was then asked by Mr. Ayston whether there was any relation between the respiratory power and the respiratory

quantity in vital capacity? To which he replied, there was a certain indirect relation. It was seen that the vital capacity increased with mere height; but by another instrument exhibited before the society, that the inspiratory power was greatest at the height of five feet eight inches, and decreases in regular progression as the height increases; and that the men of five feet eight inches could elevate by the true inspiratory muscles a column of three inches of mercury, equal, in some cases, depending upon the size of the chest, to many hundreds of pounds' resistance to their muscles, whereas the six-foot men could only do two inches and a half, and that the expiratory power was one-third higher, but not from the muscular power, but the elastic power, of the ribs being here introduced, which is not so in the inspiratory act. This inspiratory power, he considered, indicated the *vis vite* of the individual more than the expiratory power, which was affected by vocation. An elaborate series of calculations were contained in the paper upon the elastic power, and the muscular contractile power alternating in every inspiration and expiration. But this question cannot, in justice to the author, be abridged; therefore the paper must be consulted, as this is a question for the closet. This elastic power has hitherto been very slightly treated by physiologists, and the circumstances under which Mr. Hutchinson determined his views are so rare and conclusive, and we may say impossible of being obtained again, that they demand the full inspection and consideration of the physiologist. But this much may be added, that Mr. Hutchinson considers the inspiratory act as demanding a muscular power to resist an elastic power of many hundreds of pounds; that is, a direct resistance to vital energy, with no counterbalance power.

Mr. Hutchinson was asked whether he had examined any men of remarkably small stature, whose height, as they sit, is not so remarkable as their standing height.

He replied, that he had, in the course of his observations, sought out the giant and the dwarf. He then handed a spirited sketch of a human being, whose height was under thirty inches—Don Francisco, aged forty-two. This little gentleman had a vital capacity of fifty-six cubic inches. He then exhibited the shade of the hand of Mr. Randall, seven feet high, the span of whose hand was nearly thirteen inches, and the length of his foot thirteen inches and a half. He had a vital capacity of 464 cubic inches, at 60°, which, if calculated at 98°, the temperature of the body, must bring it nearly to 500 cubic inches!—*American Journal of Medical Science.*

## MEDICAL JURISPRUDENCE.

### LANCASTER QUARTER SESSIONS.

HON. ELLIS LEWIS, PRES'T.

*Com. vs. Elisha F. Hoover.* Indicted for fornication and bastardy, with Catharine E. Rife. This trial lasted two days, and excited considerable interest from the vigour with which it was conducted, and the novelty of the defence. The complainant swore that the child was begotten on the 23d of March, 1845; and born on the 30th of January, 1846, making the period of gestation 313 days—being 33 days over the usual time. The defence relied mainly on the time, and called several physicians to prove the impossibility of gestation being protracted so much beyond the usual period. Doctors Kerfoot, Burrows, Alexander Cassidy, J. S. Carpenter, Smith and Leonard, testified with more or less positiveness against the possibility of protraction. Dr. Kerfoot considered that nature had established nine calendar months as the period of healthy gestation, and that that period could not under any circumstances be materially extended. Dr. Burrows had formed his opinion from the absence of facts: he had never known gestation to exceed nine calendar months, and did not believe it possible. The other medical gentlemen called on the part of the defence concurred in substance with these, though they all admitted that the books generally held differently.

The prosecution called Doctors John L. Atlee, F. A. Muhlenberg, P. Cassidy, H. Carpenter, Fox, and Baker.

Dr. J. L. Atlee was of opinion that the ordinary period of utero-gestation was nine calendar months, or from 270 to 280 days—that, although improbable, there was a possibility of its being protracted to 313 days. He had formed his opinion from two cases which had occurred in his own practice, in which, by all the usual methods of calculation, the patients must have gone

at least ten calendar months—from the testimony and opinion of standard authors—such as Wm. Hunter, Burns, Meriman, Blundell, Velpau, Moreau, Dewees, &c. &c.—and from analogous cases among domestic animals, as proved by experiments made with great care, particularly by M. Tessier, in France.

The other gentlemen called for the prosecution concurred in the opinions of Dr. Allen, for various reasons stated, which we have not space to report.

**Charge of the Court.**—Com. vs. Elisha F. Hoover. The defendant is indicted for fornication and bastardy.—The prosecutrix, Catharine Rife, is a competent witness, but her credibility is for the jury. According to her account, the child was begotten on the 23d of March, 1845. It was born on the 30th January, 1846—a male, fine, large and healthy. The period of gestation was 313 days. It is conceded that the defendant had no intercourse with the mother after the 23d of March, 1845, and the time of delivery is fixed with equal certainty. A question of science has arisen respecting the possibility of protracted gestation.

The usual period is nine calendar months, or from 273 to 275 days. What has been denominated the *extreme* of the usual period is 280 days, or ten lunar months. But whether any, and if any, what longer time may be allowed as possible, are the questions which this case presents for decision. Medical writers of celebrity and authority are arrayed on both sides of these questions. And the medical witnesses upon the stand are, in like manner, divided in opinion. In construing this evidence, so far as respects the *facts* narrated by each, it is proper to consider that writers and witnesses are respectively relating only the results of their own knowledge: and, when one states that no case of protracted gestation has fallen under his observation, it is but negative testimony, and cannot justly be relied upon to invalidate the affirmative evidence of others equally entitled to credit, who enumerate cases of the kind, which they positively affirm to have come within the range of their practice and knowledge. In the most familiar transactions of life, witnesses will differ in their narration of the circumstances. In an account of a simple assault and battery, the bystanders frequently vary in their statement of the facts. Some narrate incidents which others omit. Conceding all the witnesses to be equally worthy of credit, the rule is to reconcile their evidence so that all will stand consistently together, if this be reasonably practicable. Some witnesses observe circumstances which others have not seen. Negative evidence is therefore deemed insufficient to outweigh affirmative statements of witnesses equally entitled to credit. One gentleman, in a long course of practice, may have failed to observe any case of the kind. Another, in a very brief period, may have noticed several. And it is reasonable to believe that where such a diversity of opinion exists, each will be in some measure influenced by his own professional experience; and that this will also, to some extent, affect his belief in the cases reported by others. There are doubtless many of these cases where the struggle have been involved, have furnished temptations to falsify, and may have influenced the decisions of the tribunals. But, after making all proper allowances for cases of this description, the whole evidence on the question, when fairly considered, appears to show that cases of protracted gestation are not impossible, although their existence is very unusual.

The heads of wheat in the same field do not all ripen together. The ears of corn on the same stalk do not all come to maturity at the same time. Even the grains of corn on the same ear ripen at different periods. The fruit on the same tree shows the like deviation. A portion will ripen and fall, while other portions remain comparatively green upon the parent stalk. The eggs of the fowl, under process of incubation at the same time, are subject to the same variation. In quadrupeds, if the testimony of M. Tessier be believed, we have proof of the like irregularity. Whatever may be the causes, operating in each case, to divert nature from her accustomed course, to accelerate or delay her usual progress, the human species, like the rest of creation, seems occasionally under their influences. The developments of puberty, although generally shown at a certain age, are far from regular. Some individuals approach it earlier—others later in life. Intellectual maturity is subject to the same irregularities. Some are precocious, others astonishingly tardy in arriving at the usual degree of discretion. The intervals between the catamenial visits, although in general regular and fixed, exhibit remarkable deviations. The final departure of the catamenia, although generally to be expected at a certain age, is as irregular as their first

approach, and as subject to variation as were their periodical returns. A certain period of life has been usually assigned for the termination of a mother's period, but the instances of extensive deviations from this general rule are numerous and well established. The gestation of one child at a time is according to the usual course of nature, but the births of twins, triplets, &c., furnish indubitable proofs of astonishing departures from the usual course. The sensations of the mother produced by the elevation of the fœtus from the cavity of the pelvis, (called quickening,) although usually occurring at a certain period, are known to be subject to the like departure from the usual time.—It has been said that human life does not generally extend beyond 70 years. But if this be the general rule, the departures are numerous. The most distinguished jurist perhaps, now living in the whole world, (Chancellor Kent), will be 83 years old on the 31st of July next; and yet, within a few days I have been honoured by the receipt of a letter from him, under date of the 18th inst., in which he states that he is still in "good and active health—that his reliſh and ardour for studies and legal learning continue unabated—that he has the blessing of good eyes, and that he is still an observer of what passes with lively sensibility." This instance may serve to illustrate not only the occasional deviation from general rules respecting the duration of human life, but the like variation in respect to intellectual vigour, by which one individual attains a pre-eminence over the generality of mankind. All Nature abounds with occasional departures from her general customs. Even the compass, which guides the mariner on the trackless ocean—which enables science to fix with reasonable certainty the boundaries of kingdoms and farms, and the truthfulness of which to its accustomed law has been perpetuated by a proverb—is subject to mysterious but acknowledged variations.

From analogy, and from the statements of distinguished authors and eminent witnesses, after making every allowance for mistakes, and the operation of unfavorable influences, we are led to the belief that, although Nature delights in adhering to her general designs, she is occasionally retarded in her progress, and otherwise coerced, by causes not always apparent, into extensive deviations from her accustomed path.—And we are induced to believe that protracted gestation, for the period of 313 days, although *unusual* and *improbable*, is not *impossible*. The evidence to establish the existence of such a considerable departure from the usual period, should be clear and free from doubt. The witness should possess a character beyond reproach, and her testimony should be consistent and uncontradicted in all material facts. If the jury are satisfied that the evidence for the commonwealth is of this character, the unusually long period of gestation does not require them to disregard it. The law fixes no period as the *ultimum tempus pariendo*. The usual period has been stated, but longer time may be allowed, according to the opinions of physicians and the circumstances of the case. The question is, therefore, open for the decision of the jury. If they believe the witness, they may find the defendant guilty.

[Here the court drew the attention of the jury to the prominent facts, tending on the one side to impeach, and on the other to support, the credit of the prosecutrix; and then left the case to the jury, with the direction that, if they entertained reasonable doubts of the defendant's guilt, he was entitled to an acquittal.]

April 24, 1846.

ELLIS LEWIS.

**NOTE.**—A lady of respectability was examined on oath, in the course of the trial, and stated that she had been the mother of nine children—that to the best of her judgment and belief, the period of gestation, in the case of the seventh child, was over ten months. That in addition to the usual data, she relied upon the time of quickening, which happened, as she believed, at the usual time, and that the birth of the child did not take place until seven months after that event.

The jury found the defendant guilty, and the usual sentence was passed upon him.

Frazer and Mathiot for the commonwealth—Stevens for the defendant.—*American Journal of Medical Sciences*, Oct., 1846.

## CHEMISTRY, MATERIA MEDICA, &c.

### MANUFACTURE OF VINEGAR, BY THE NEW OR QUICK METHOD.

(Chem. Gaz., vol. i., p. 190.)—The acidifying casks used in this process are generally from 5 to 7 feet high, and 2½ to 3 feet

in diameter, somewhat narrower at the bottom than at the top, and constructed of oak. At about a foot from the bottom, and just above the cock by which the acidified liquid is drawn off, the tub is perforated by six holes, about an inch wide and sloping downwards, through which the air may enter, but none of the liquid flow out. The vessel is closed by a cover, in the centre of which a hole has been made 2 to 3 square inches wide. These vessels are now filled with curled beech shavings, which must neither be too thin nor too thick, otherwise they possess too little elasticity, and in the latter case do not curl. Previous to use both the tubes and shavings should be repeatedly scalded with hot water to extract the soluble substances, and when dried imbued with hot vinegar. These vessels are arranged on wooden framework, or on a pier of brick-work, sufficiently high to allow of the liquid being conveniently drawn off.

The manufacture of vinegar is now carried on in the following manner:—The vinegar mixture should contain two-thirds less alcohol than prescribed, and also less vinegar. For instance, suppose the vessels holding the mixture to contain 180 quarts, the mixture should consist of 20 quarts alcohol, 40 vinegar, and 120 quarts water; but instead of this a mixture is formed of 20 quarts vinegar, 15½ alcohol, and 137 water. The 7½ quarts alcohol that are wanting are subsequently added. It is requisite that the water should be heated to 100–104°, that the mixture may have a temperature of 86–90°.

According to the size of the acidifying vessels, from 2½ to 5 quarts of this mixture are poured on the shavings every half hour, the vessels immediately covered with their lids, but the aperture left open. When all the prepared mixture has filtered through, the liquid contents are drawn off into the vessels in which the mixture was prepared, and 5 quarts of alcohol added. The liquid is now passed through the shavings a second time, and drawn off, the remaining 2½ quarts alcohol added, and again let percolate a third time.

The liquid which has passed through the shavings once forms a weak, the second time a strong, and the third time a perfectly good and very strong vinegar. The reason why the whole amount of alcohol is not added at once is, that even in a favourable course of the process a portion of the alcohol escapes conversion into acid, on which account first 5, and then 2½ quarts are subsequently added.

It will be seen how very simple the whole process is, and by calling to mind what has been above stated, the rapid formation of vinegar will be perfectly intelligible. What is the cause of the rapid formation of vinegar? It is the considerable increase of surface of the fluid to be rendered acid, that is, exposed to the action of the atmosphere, and the high temperature within the vessels. When the vinegar mixture has been brought into the acidifying vessels, it diffuses itself over the shavings, and the surface of the mixture becomes equal to that of the shavings, therefore certainly several hundred times greater than in the old method. The air which passes through the lower apertures of the cask gives off its oxygen to the alcoholic mixture, converts it into vinegar, and so escapes partially deprived of its oxygen through the aperture in the lid, because its specific weight has been rendered less by the heat of the vessel, and fresh air constantly passes in through the lower draught holes. The rapid oxidation of the alcohol naturally liberates much heat, which contributes considerably to keep the mixture at a proper temperature. If the room has a temperature of 77° Fahr., and the mixture about 82°, the temperature in the interior of the vessel will amount to between 95° and 100°; and it is essentially necessary that the interior of the acidifying vessels should not be less than 95°, otherwise it is a sign that the vinegar mixture is as it were in a diseased state; it breathes too little oxygen, and consequently scarcely any formation of vinegar takes place. To prevent, as much as possible, heat being carried off by the surrounding atmosphere, the vessels, with the exception of the 6 apertures in the cask and that in the cover, are covered with bad conductors of heat, such as linen or paper.

Some manufacturers advise keeping the room at a temperature of 100°, or even 111° Fahr., but this can only be accomplished in a room in which, on account of the great consumption of oxygen, a strong current of air must exist, at a considerable expense of fuel. The object said to be attained by this high temperature is, that the air which passes in at the apertures does not, on account of its high temperature, deprive the vessels of any heat. But far from this being of use, it is absolutely disadvantageous, for the temperature in the vessel becomes too high, which creates

too strong a draught, and the air carries away with it out of the vessels a quantity of alcohol and acetic acid; and moreover the acetic acid formed is more liable to be converted into carbonic acid and into a slimy substance, in a word, only a weak vinegar is obtained. In this new process for manufacturing vinegar, as in many other things, extremes should be avoided; there should not be too high a temperature, as this occasions a loss of acetic acid and of fuel; nor one too low, as this gives rise to an unnecessary waste of time and labour.

In the above exposition of the manufacture of vinegar by the quick process, we have hitherto spoken only of the preparation of an artificial wine vinegar or alcohol vinegar, but this process may be employed in making all the other kinds. When fruit or malt vinegar is prepared in the above manner, the liquid must be as clear as possible before it is brought on to the shavings, otherwise these soon become clothed with a slimy substance, which must be removed. When this has occurred, they are taken out, placed in a vessel, and cleansed with a broom and hot water, after which they are dried, and again brought into the acidifying vessels, and imbued with acid.

In conclusion, we may observe that it has sometimes happened that the manufacturer has found all his alcohol gone, and scarcely a trace of vinegar formed—a somewhat perplexing situation for one not acquainted with the freaks of chemistry. But the cause of this is easily found; the supply of air had been insufficient to allow of the alcohol undergoing perfect metamorphosis, and only aldehyde was able to form. This body is extremely volatile (it boils at 72°), and consequently soon disappears, and the manufacturer finds, to his surprise, his wine converted into water. One of the essential conditions in this process is, that the supply of fresh air should not be limited.—*Southern Journal of Medicine and Pharmacy*.

#### MODE OF KEEPING PLUMMER'S PILLS.

(Dublin Hosp. Gaz., 1846.)—These pills (pilule hydragryi chloridi compositæ) ought never to be kept in mass; when the materials are kept mixed in a moist state, mutual decomposition takes place between the calomel and the brown sulphuret of mercury, chloro-sulphuret of antimony and sulphuret of mercury being formed. The powders should therefore be always kept mixed in the dry state, and when the pills are wanted, the mixture may be massed by means of a few drops of spirits of wine. It is well to recollect, however, that two parts of the mixed and dry powders are equal in strength to three parts of the pill mass; and the compounder, therefore, to fulfil the intentions of the prescriber, should employ of the dry powders but two-thirds of the quantity of pill mass ordered.—*Southern Journal of Medicine and Pharmacy*.

#### CEMENT FOR PORCELAIN AND GLASS.

(Polyt. Cent. Blatt, No. 12.)—The best and most beautiful cement for fractured porcelain and glass is, according to M. Keller, the following:—

Two parts of isinglass, cut into fine pieces, are left for 24 hours covered with 16 parts water, then boiled down to 8 parts, mixed with 8 parts alcohol, and strained through linen. The liquid is mixed while hot with a solution of 1 part mastic in 9 parts alcohol, and to the whole ½ part gum ammoniacum, finely pulverized, added gradually, and the liquid rendered perfectly homogeneous. This cement while hot is quite liquid, but on cooling becomes hard. In using it both cement and the fragments are made as warm as possible, both pieces allowed to dry, then again rubbed over with the cement, and pressed together. After five or six hours the cement is perfectly hard. It is not applicable to articles of porous earthenware; the best cement in this case is a thick solution of shell-lac in spirits of wine.—*Southern Journal of Medicine and Pharmacy*, Nov., 1846.

#### ON FERROCYANIDE OF POTASSIUM.

By F. F. RUNGE.

As ferrocyanide of potassium, when mixed with about a third of its weight of potash (carbonate), and thrown

into a red hot crucible is converted into cyanide of potassium and free iron, Liebig has made the apparently correct conclusion, that when azotized carbon, potash and iron are heated together, cyanide of potassium is alone produced, and that the ferrocyanide is produced during solution of the mass in water, as then the iron is acted on by the cyanide.

This may be the case in small experiments, but on the large scale it is not. The powdered mass produced by the fusion of 400 lbs. potash, 400 lbs. carbonized horn, and 10 lbs. iron, cannot be separated, as Liebig states, by washing with spirit into two parts, the liquid (containing the cyanide of potassium in solution) and the residual iron, so that ferrocyanide is first obtained on mixing and heating the two together.

If the finely pounded mass is put into a funnel, and spirit (equal parts water and strong alcohol) poured on it as long as it dissolves anything, two liquids are obtained, one heavier than the other. The heavier one is a solution of potash, the lighter contains cyanide of potassium. The black residue when boiled with water gives ferrocyanide in the same quantity as it is obtained from the whole mass. Hence it follows that ferrocyanide of potassium, which is insoluble in spirit, exists ready formed in the fused mass, and is not generated during the solution of the cyanide of potassium.—*Translated from Poggendorff's Annals by H. C.*

## NEW EARTHS IN ZIRCONS.

By L. SWANBERG.

It appears that zirconia is no simple earth, but consists of several, as has been shown to be the case, with other oxides, viz., those of cerium, yttrium, and tantalum acid, and it appears that those new earths occur in different quantities in the zircons and hyacinths from different localities. That such earths, containing various proportions of oxygen, are contained in zirconia, was proved by a quantitative determination of the sulphuric acid contained in sulphates prepared in different ways.

Supposing that the formula for these earths is  $R^2 + O^3$  similar to zirconia, their atomic weights determined by the above method vary between 935 and 1320, and for some between 1100 and 1140. Swanberg has not succeeded in discovering such differences in the earths as to enable him to separate them accurately from zirconia, but it appears there are certainly two, if not more. Norium is the name proposed for the earth accompanying zirconia in the zircons of Norway.

During the course of his experiments, Swanberg was induced to examine the zirconia contained in other minerals besides zircons and hyacinths, and for this purpose he chose the Eudialyte of Greenland. The zirconia contained in this rare mineral appeared at first to be identical with that prepared from zircons; but it afterwards appeared that it contains a number of substances mixed with it, some of which have been lately discovered, but others seem to be new.

Some of the earths are very similar to yttria, but not identical with it, nor with the other earths, Erbium and Terbium, lately found in it by Mosander.—*Translated from Poggendorff's Annals, vol. 66.* H. C.

## RESEARCHES ON THE RELATIONS OF LIGHT AND MAGNETISM.

By M. FARADAY, Royal Institution, Jan. 23.

(*Athenaeum*, No. 953, Jan. 31, 1846, p. 126.)

We shall confine ourselves to the method by which Professor Faraday exhibited the great fact of his researches—the rotation of a ray of light by magnetic force. The well known oxy-hydrogen light of Drummond supplied the ray. This light was so directed by an arrangement furnished by Mr. Darker, as to make distinctly visible, over the whole theatre, all the phenomena of circular polarization which were required to illustrate Professor Faraday's newly discovered principle. A beam of common light was shown to be separable into two distinct rays of polarized light; and the properties of these, and their relation to each other, were repeatedly demonstrated to the spectators. Such being the subject of his operations, Prof. Faraday next exhibited the nature and extent of the force employed to accomplish his results. That force is magnetism derived from an electro-magnet of immense size and power. The magnet used was a half link of the former East India moorings, surrounded by several coils of thick copper wire, and the source of electric power was Grove's battery, about twenty cells of which were employed on this night. To give an idea of the force of this electro-magnet, Prof. Faraday mentioned that once, while he was at work in the laboratory, an iron candlestick which happened to be standing on the table near its poles, instantly flew to them, attracted with such violence as to displace or break every thing in its way. The great experiment of the evening was then successfully tried. A prism of heavy glass was so adjusted between the poles of the magnet, as to receive the oxy-hydrogen light after it had been polarized, and before it was depolarized by Nicholl's eye-piece. The following facts, demonstrating the magnetism of light, were then exhibited:—

1. As to the rotation of the ray.—A polarized ray, having been extinguished by the depolarizing plate, was instantaneously restored when the magnetic current was sent through the prism through which the ray was transmitted: and conversely, the polarized ray, when, by the common adjustments of the plate, it had been made visible, was extinguished by the force of the current.

2. As to the relations of this electro-magnetic power to other laws of polarized light.—The rotation having been established, it was shown, (a.) That the direction of the rotation was absolutely dependent on that of the magnetic force. (b.) That, while in common circular polarization, the ray of light always rotates in the same direction with regard to the observer, (to whatever part of the medium his view may be directed,) it is very different in the state of the ray induced by this new force. When brought under the influence of the magnetic current, polarized rays always rotate in a constant direction with respect, not to the observer, but to the plane of the magnetic curves.

Prof. Faraday concludes, by throwing out some general notions as to the possible development of these researches in the line of future investigations. It did not seem impossible to him, that the sun's rays might be found to originate the magnetic force of the earth, and the air and water of our planet might be proved to be the diamagnetic media in which this condition of the force was eliminated.

M. Pouillet has repeated the experiments of Faraday, and communicated a report to the Academy of Sciences of Paris, (*L'Institut*, No. 630.) He is of the opinion that the phenomena are due to action on the transparent medium, or upon the forces which govern its molecules, and not on the luminous ray itself.—*American Journal of Science and Arts.*

## THE

## British American Journal.

MONTREAL, DECEMBER 1, 1846.

## LICENTIATES OF THE MEDICAL BOARDS OF CANADA EAST.

We commence in this number the publication of the names of the various Licentiates of the Medical Boards of the Eastern part of this Province, commencing from



the year 1788. The list which we now give, is correct. ed from one published in "the Montreal Almanack, or Lower Canada Register for 1830;" and we will continue it in an early succeeding number. If our subscribers should meet with errors, we would be obliged by some early intimation of the circumstance.

† Henry Leodel . . . . .	Montreal . . . . .	Nov 24, 1788	Joseph Hensley . . . . .	Rouville . . . . .	June 21, 1822
Daniel Arnoldi . . . . .	Montreal . . . . .	June 22, 1795	James O'Leary . . . . .	River Ouelle . . . . .	Aug 9, 1822
Henry Munro . . . . .	Montreal . . . . .	Aug 17, 1795	† William Larue . . . . .	Quebec . . . . .	Sep 2, 1822
* J H Ferris . . . . .	Chateauguay . . . . .	1804	François H Seguin . . . . .	Quebec . . . . .	Sep 18, 1822
† Abner Rice . . . . .	St Andrews . . . . .	Oct 4, 1804	L Rousseau . . . . .	Yamaska . . . . .	Oct 5, 1822
Henry Porter . . . . .	Qumzechien . . . . .	June 17, 1805	James Dorion . . . . .	St Ours . . . . .	Oct 30, 1822
† George Carter . . . . .	Three Rivers . . . . .	Sep 5, 1805	Alexander Gillon . . . . .	St Jacques . . . . .	Dec 6, 1822
† A A Dame . . . . .	River du Loup . . . . .	Mar 24, 1808	John B C Trester, MD . . . . .	Montreal . . . . .	Dec 20, 1822
† Jacques Labrie . . . . .	St Eustache . . . . .	Aug 12, 1808	George Roberts . . . . .	Quebec . . . . .	Mar 29, 1823
† Stephen C Blyth . . . . .	Chateauguay . . . . .	Aug 4, 1809	† Dugald M'Donald . . . . .	La Baie du Febre . . . . .	May 14, 1823
Joseph Painchaud, M D . . . . .	Quebec . . . . .	Jan 9, 1811	Anselm M Fraser . . . . .	St Francis . . . . .	July 15, 1823
Wolfred Nelson . . . . .	Montreal . . . . .	Feb 13, 1811	Michael Macculloch, MD . . . . .	Montreal . . . . .	Sep 6, 1823
† Calvin May . . . . .	Missisquoi Bay . . . . .	Feb 27, 1811	† John Hill Roe . . . . .	Henryville . . . . .	Sep 11, 1823
Henry V Rogers . . . . .	Quebec . . . . .	May 17, 1811	* William Rees . . . . .	Quebec . . . . .	Sep 15, 1823
Ant G Couillard . . . . .	Quebec . . . . .	June 12, 1811	Richard A Fortier . . . . .	Nouvelle Beauce . . . . .	Dec 15, 1823
Jean Bte Lebourdais . . . . .	Montreal . . . . .	June 12, 1811	Benj. Berthelet, M D . . . . .	Montreal . . . . .	Dec 31, 1823
† René Kimbert, M D . . . . .	Three Rivers . . . . .	July 22, 1811	† Archibald Rae . . . . .	St Andrews . . . . .	Jan 17, 1824
† François C Duvert . . . . .	St Charles . . . . .	Mar 13, 1812	Brown Chamberlin . . . . .	St Armand . . . . .	Mar 1, 1824
M P S Laterriere . . . . .	Eboulimens . . . . .	Apr 23, 1812	† Alexis Demers . . . . .	Montreal . . . . .	May 24, 1824
† L M R Barbier . . . . .	Berthier . . . . .	Sep 7, 1812	† James Campbell, M D . . . . .	Montreal . . . . .	June 1, 1824
Samuel Newcomb . . . . .	Quebec . . . . .	Oct 10, 1812	† George C Rankin . . . . .	Montreal . . . . .	July 10, 1824
Thomas Horsman . . . . .	Kameursaska . . . . .	Jan 7, 1813	† Wm J Vallée, M D . . . . .	Montreal . . . . .	Aug 5, 1824
† John Morley . . . . .	Boucherville . . . . .	Jan 18, 1813	Rodolph Steiger . . . . .	Longueil . . . . .	Apr 12, 1825
† François Fortier . . . . .	Quebec . . . . .	Mar 31, 1813	Joseph Nicholas . . . . .	Boucherville . . . . .	Apr 27, 1825
† J F B Lionais . . . . .	Chambly . . . . .	Mar 31, 1813	R C Weillbrenner . . . . .	Boucherville . . . . .	May 5, 1825
Thomas Fargue, M D . . . . .	Quebec . . . . .	Jan 11, 1814	W W Forrest . . . . .	River du Loup M . . . . .	June 17, 1825
* Robert Nelson . . . . .	Quebec . . . . .	Apr 15, 1814	† John Walker . . . . .	Montreal . . . . .	June 25, 1825
John Weston . . . . .	Hatley . . . . .	July 28, 1814	Elisha J Ransom . . . . .	Quebec . . . . .	July 25, 1825
† Wm Robertson, M D . . . . .	Montreal . . . . .	May 10, 1815	* Etienne Drolet . . . . .	Quebec . . . . .	Sep 22, 1825
William Thurber . . . . .	Montreal . . . . .	July 13, 1815	† Patrick Buckley . . . . .	St Johns . . . . .	Sep 25, 1825
Joseph Morrin . . . . .	Quebec . . . . .	July 15, 1815	Francis Murray . . . . .	Quebec . . . . .	Sep 30, 1825
A F Holmes, M D . . . . .	Montreal . . . . .	May 15, 1816	James Bowie, M D . . . . .	Montreal . . . . .	Oct 28, 1825
† Patrick Donnelly . . . . .	St Roch Q . . . . .	Oct 5, 1816	Samuel W H Leslie . . . . .	Montreal . . . . .	Nov 10, 1825
Thomas Bouthillier . . . . .	St Hyacinthe . . . . .	June 4, 1817	Charles Pellissier . . . . .	Quebec . . . . .	Feb 16, 1826
† William Caldwell, M D . . . . .	Montreal . . . . .	June 25, 1817	† Louis Dorwin . . . . .	River du Loup . . . . .	Feb 22, 1826
† William Fraser . . . . .	Malbaie . . . . .	July 2, 1817	* A W Robinson . . . . .	St Vincent de Paul . . . . .	Feb 27, 1826
† Neil M Kerman . . . . .	Montreal . . . . .	July 14, 1817	Hamilton Leslie . . . . .	Quebec . . . . .	Mar 14, 1826
Bazile Charlebois . . . . .	Montreal . . . . .	July 26, 1817	J Bte Meilleur, M D . . . . .	Montreal . . . . .	Apr 5, 1826
† George Gillies . . . . .	Montreal . . . . .	Aug 15, 1817	Luke Bent . . . . .	St Genevieve . . . . .	Apr 12, 1826
† William Pardey, M D . . . . .	Montreal . . . . .	Oct 14, 1817	James Douglas . . . . .	Quebec . . . . .	Apr 17, 1826
Asa T Alexander . . . . .	Lapraire . . . . .	Oct 21, 1817	Charles H Castle . . . . .	Montreal . . . . .	May 4, 1826
L J C Caseneuve . . . . .	L'Assomption . . . . .	July 8, 1818	Michel F Valois . . . . .	Pointe Claire . . . . .	May 10, 1826
C N Perrault, M D . . . . .	Quebec . . . . .	July 24, 1818	Francis Badgley, M D . . . . .	Montreal . . . . .	May 19, 1826
A Von Iffland, M D . . . . .	Yamaska . . . . .	July 25, 1818	Lindsay Sims . . . . .	Quebec . . . . .	June 12, 1826
Henry Mount . . . . .	Montreal . . . . .	Aug 8, 1818	William Belin, M D . . . . .	Assomption . . . . .	June 19, 1826
C Alexander . . . . .	Nicolet . . . . .	Sep 4, 1818	* John Whitelaw . . . . .	Trois Saumons . . . . .	June 21, 1826
J Leduc . . . . .	Vaudreuil . . . . .	Oct 9, 1818	† Frs X O Boucher . . . . .	Maskinongé . . . . .	Aug 21, 1826
R S Bourdages . . . . .	St Hyacinthe . . . . .	Oct 13, 1818	Ol T Bruneau, M D . . . . .	Montreal . . . . .	Aug 30, 1826
Thomas Fortier . . . . .	Gentilly . . . . .	Oct 13, 1818	P D Brousseau . . . . .	Montreal . . . . .	Oct 17, 1826
Ernat Munchel . . . . .	Aubert Gallion . . . . .	Jan 29, 1819	Wm F Deschambault . . . . .	Point aux Trembles . . . . .	Oct 18, 1826
Etienne P. Tasché . . . . .	St Thomas . . . . .	Mar 18, 1819	Bernard Murray . . . . .	Quebec . . . . .	Nov 21, 1826
George Larue . . . . .	St André . . . . .	May 19, 1819	C G O'Dogherty, M D . . . . .	Montreal . . . . .	Nov 21, 1826
John Rowley . . . . .	Quebec . . . . .	June 14, 1819	Michael Mulholland . . . . .	St Anne . . . . .	Jan 2, 1827
Stephen Hicks . . . . .	Quebec . . . . .	Oct 5, 1819	William A Jardine . . . . .	Laprairie . . . . .	Mar 5, 1827
E W Carter . . . . .	Sorel . . . . .	Nov 1, 1819	Joshua Chamberlain . . . . .	Dunham . . . . .	May 10, 1827
Pierre Mackay . . . . .	St Michel . . . . .	Nov 22, 1819	François J Martin . . . . .	Quebec . . . . .	May 23, 1827
† Alexander Lusignan . . . . .	Montreal . . . . .	Dec 4, 1819	Louie Girard . . . . .	L'Islet . . . . .	June 20, 1827
* Hugh Caldwell, M D . . . . .	Quebec . . . . .	Feb 12, 1820	Henry J Martin . . . . .	Henryville . . . . .	July 4, 1827
* Simon Z Henry . . . . .	Laprairie . . . . .	Apr 3, 1820	* F T C Arnoldi, M D . . . . .	Three Rivers . . . . .	Sep 3, 1827
John Gray . . . . .	St Giles . . . . .	May 8, 1820	† Henry M'Dowall . . . . .	Montreal . . . . .	Sep 25, 1827
J G Gaucher . . . . .	Cap Santé . . . . .	June 12, 1820	Alfred A Andrews . . . . .	St Rose . . . . .	Sep 22, 1827
Jean Blanchet . . . . .	Quebec . . . . .	July 24, 1820	* E B O'Callaghan, M D . . . . .	Quebec . . . . .	Oct 6, 1827
E P Lamoureux . . . . .	Chateau Richer . . . . .	Aug 1, 1820	† Truman Sterns . . . . .	L'Assomption . . . . .	Nov 13, 1827
Joseph Parent . . . . .	Quebec . . . . .	Aug 29, 1820	George Douglas, M D . . . . .	Quebec . . . . .	Nov 13, 1827
† H P Barwalow . . . . .	St Roch . . . . .	Oct 20, 1820	John M Nabb . . . . .	Cedars . . . . .	Dec 24, 1827
John Clark . . . . .	Isle Orleans . . . . .	July 12, 1821	† Jean O Chenier . . . . .	St Benoit . . . . .	Feb 20, 1828
† Robert Hall . . . . .	St Johns . . . . .	Aug 31, 1821	Pierre Beaubien, MD . . . . .	Montreal . . . . .	Feb 29, 1828
† John Stephenson, M D . . . . .	Montreal . . . . .	Oct 19, 1821	F X Drolet . . . . .	St Jean . . . . .	Mar 15, 1828
Timoleon Quesnel . . . . .	L'Acadie . . . . .	May 6, 1822	† Joseph Lavaux . . . . .	Quebec . . . . .	Mar 15, 1828
† C Quesnel . . . . .	Becancour . . . . .	June 11, 1822	John Ed Rankin . . . . .	Quebec . . . . .	May 1, 1828
			† John R Spooner . . . . .	Montreal . . . . .	May 9, 1828
			William Blumhart . . . . .	St Michel . . . . .	May 10, 1828
			† Jacob Glen . . . . .	Chambly . . . . .	May 10, 1828
			Joseph Haller . . . . .	St Antoine . . . . .	May 10, 1828
			† Edouard Moreau . . . . .	St Laurent . . . . .	May 15, 1828
			* Thomas G Keegan . . . . .	Montreal . . . . .	May 17, 1828
			† John Dormer . . . . .	Quebec . . . . .	June 4, 1828
			† Thomas Alfred Panet . . . . .	St Thomas . . . . .	June 4, 1828



* Henry Stubinger . . .	St Hyacinthe . . .	June 14, 1828
Jean Bte Noel . . .		July 3, 1828
John Barr . . .	Belle Riviere . . .	July 16, 1828
Gabriel Aimong . . .	Chateauguay . . .	Aug 6, 1828
Samuel Waller . . .	Montreal . . .	Aug 14, 1828
Leonard Brown . . .	Durham . . .	Sep 11, 1828
L U Grenier . . .		Sep 25, 1828
† J M J Berthelot . . .	St Genevieve . . .	Dec 27, 1828
Joseph H Bernard . . .		Mar 4, 1829
Joseph Weilbrenner . . .		Mar 5, 1829
† P C R Delabriere . . .	Boucherville . . .	Mar 6, 1829
* J C Betin Belair . . .		Apr 14, 1829
Wilo H Fowler . . .		Apr 16, 1829
† R M G Walmsley . . .	Lacadio . . .	Apr 24, 1829
James Brent . . .		Apr 29, 1829
Uriah Lafin . . .	Caldwells Manor . . .	May 4, 1829
C P A Boucher . . .	Maskinonge . . .	June 5, 1829
J. B. Grenier . . .		July 20, 1829
John Parker . . .		Aug 7, 1829
Charles J Nowland . . .		Aug 7, 1829
X B Blais . . .		Aug 8, 1829
Otis Jenks . . .		Aug 11, 1829
Charles Fleming . . .		Aug 15, 1829
J C Fournier . . .	St Gregoire . . .	Sept 3, 1829
René Bedard . . .		Sept 3, 1829
Pierre Martial Bady . . .	St Jacques . . .	Nov 13, 1829
Chas J Fremont, M D . . .	Quebec . . .	Nov 16, 1829

Drs. Geo. Selby and F. X. Bender of Montreal, were two of the Commissioners originally appointed to examine Candidates for Licences, and therefore do not hold Licences themselves.

#### PHYSICIANS AND SURGEONS.

The dates of whose Licences have not been obtained.

† W Holmes, M D Quebec	† Gustave Iserhoff, Berthier
François Blanchet, do	† Joseph Karsh, —
† William Lyons, M D do	Peter Leodel, Lavaltrie.
† William Hall, do	† Edouard Martinus Is Orleans
† M Mabhey, Montreal.	Perkins Nichols, Varennes.
† Simon Fraser, Terrebonne.	Moses Nichols, Sherbrooke.
† Aug Globensky, St Eustache.	† A Schiller, St. Rose.

N. B. Those marked † are supposed, or are known, to be dead.

Those marked \*, are supposed, or are known, to have left the Province.

**Quack Doctors and Medicines.**—The following, extracted by the *Dublin Medical Press* from the *Journal de Chemie Med.*, is well worthy of imitation by "powers that be" in other places. The practice which the French authorities have thus repudiated, is one which is offensive to good taste, a violation of medical ethics, and, as far as advertisements in the public newspapers are concerned, productive of an incalculable degree of injury to the community, by the temptations offered to the purchase of quack medicines, which are thus placed before the public, with all the enticing allurements of false certificates of their efficacy in the cure of "all the ills that flesh is heir to:"—

"The Mayor of Lyons has just issued a proclamation, that no bills or placards announcing the treatment of any disease by particular individuals, or the sale of any particular medicines, shall be posted on any of the walls of the city, or otherwise exposed to public view: and further, that none of the public newspapers shall insert any such announcement in their advertisements or otherwise. A similar ordinance has been issued in Paris, and every city in France."

**Progress of the Asiatic Cholera.**—The following additional information relative to this fatal disease will be found of interest:—

**Cholera in Persia.**—The last Levant packet which arrived

at Malta brought the intelligence that the cholera had broken out in Persia, particularly at Teheran, where one of the brothers of the Schah has fallen. The Schah, with his court, had sought refuge in the mountains. It is feared that, as in 1832, this scourge may again visit Asia Minor and the Mediterranean.

The latest intelligence from Aden announces that the cholera had disappeared from that place, and that the troops were healthy.—*London Med. Gazette*, Sept. 1846.

**Cholera at Aden.**—This disease, which made its appearance at Aden early in May, has, in consequence of the changing of the monsoon, nearly vanished, isolated cases occurring only at intervals. During the five days it raged, upwards of four hundred persons were carried off, the deaths being four out of five attacked; the cholera is, however, rapidly advancing along the territory of Yemen, and fears may be entertained of its appearance on the shores of the Mediterranean. The disease is making dreadful havoc in India.—*Med. Times*, July 18.

**Cholera at Kurrachee.**—The seaport of Kurrachee, formerly one of the healthiest military stations, has, ever since it became known to us, been visited triennially by cholera. In 1839, and again in 1842, the amount of suffering occasioned by it was terrible, yet slight compared to that which it has just endured. Between the 13th and 23d June, above 8000 human beings were cut off by it, including 895 Europeans, of whom 815 were fighting men, 595 sepoys; and, it is believed, about 7000 natives, besides camp-followers, and inhabitants of the town, have died. The pestilence had quitted Kurrachee, and was apparently creeping up the river. Fever of a very fatal kind had made its appearance amongst the European soldiers at Sukkur: its triennial visit is to be looked for next year. Her majesty's 17th had chiefly suffered: it was said they were to be moved down, while her majesty's 86th were to move up to Hyderabad.

An extremely dry season has been followed by an unusually wet one; between the 9th of June and the 17th of July upwards of thirty-five inches of rain fell.

The *Kurrachee Advertiser* states that 7000 of the inhabitants have been cut off by cholera—nearly 9000 victims in ten days' time.

"Of the 60th Rifles there died 4 sergeants, 101 men, 4 women, and 3 children. Total, 112.

"Of the 80th Regt.: 1 officer, 24 sergeants, 329 men, 17 women, and 16 children. Total, 387.

"Of the Company's Artillery: 4 sergeants, 19 men, 2 women, and 6 children. Total, 31.

"Of the 1st Bombay European Regt. (Fusiliers): 1 officer, 18 sergeants, 314 men, 9 women, and 23 children. Total, 365.

"Of the 3d N. I., 310 sepoys; of the 12th N. I., 236 sepoys; of the Belooch Batt., 49. Grand total, 1490; independent of the inhabitants."—*Naval and Military Gazette*.

**Cholera in Holland.**—This disease, under the mild form of what has been termed by the French *cholérine*, has made its appearance at Amsterdam and Rotterdam, and has already attacked a great number of individuals, but not one of the cases has proved fatal.—*Ibid.*, from *Gaz. Med.*

**Montreal Medical Students' Society.**—A Society among the medical students in this city has existed for a number of years. Simultaneously with the opening of the medical classes, it has been again this year re-organized, and, judging from the names of the parties who are to control it, we think, under flattering auspices for its efficiency. The Society holds its meetings fortnightly. Two essays on subjects of medical science are read, one of which must be, according to the rules,

contributed by the President; the other by some member in rotation. This part of the proceedings is followed by the report of a case furnished by another member; and the evening's deliberations are closed with an examination by the President on some subject of a medical or surgical nature, selected for the purpose at the preceding meeting. Societies of this nature, if their objects be strictly pursued, with avoidance of all subjects foreign to their legitimate end, may be rendered of incalculable advantage. There is no method more likely to render the student familiar with his profession, and to improve him in a knowledge of the several departments of it, than the interchange of ideas, the free discussion, and the cross-questioning which constitute the chief feature of such reunions. We wish the Institution well: but, above all, we wish every member of it the full benefit of its advantages, recommending every medical student to participate in them. The following are the names of its officers, the President being elected every three months:—

*President*—W. Wright.  
*Vice-President*—C. H. Keefer.  
*Secretary*—R. P. Howard.  
*Treasurer*—S. Gauthier.  
*Committee of Management*—L. Genaud, A. E. MacDonald, A. C. Macdonnell, and C. Johnson.

*The Family Christian Almanac for 1847.*—We acknowledge the reception from the author of a copy of the above publication. It is neatly printed, and contains the information usual in publications of the kind. It ought to be in the possession of every one who wishes information on the various subjects treated of.

*Quebec Medical Board.*—At the last Quarterly Meeting of this board, held on the 3rd, 4th, and 5th instant, the following gentlemen were examined and recommended for license.

Edward B. Donnelly, from Detroit, W. S.; John P. Russell, M. D., Joseph Painchaud, and John Fitzpatrick, from Quebec; Michel Thibault, Narcisse Bourgeois, Ls. Jos. Desmorais, Edmond Robillard, Francis Codd, and F. H. Cadwell, M. D., from the District of Montreal; Edward McDonald, from the District of Three Rivers, R. F. T. Hilbreth, from the District of St. Francis.

The names of the Licentiates at the last quarterly meeting of the Medical Board, for the District of Montreal, will be given in our next number.

#### BOOKS, ETC. RECEIVED DURING THE MONTH.

Southern Medical and Surgical Journal, November.  
 Medical Examiner, November.  
 Dublin Medical Press, October 7, 14.  
 Buffalo Medical Journal, November.  
 Western Lancet, do (Two copies.)  
 Boston Medical and Surgical Journal, November 4, 11, 18, 25.  
 New Elements of Operative Surgery, by Alfred A. L. M. Velpeau. Translated by P. S. Townsend; with notes, etc., by Valentino Mott, M.D. New York: J. & H. G. Langley.  
 Missouri Medical and Surgical Journal, October.

American Journal of Science and Arts, November.  
 Medical News and Library, November.  
 Contributions to Terrestrial Magnetism, No. 7, by Lieutenant Colonel Gibson Sabine, R. A. For. Sec. R. S. etc.  
 The Family Christian Almanac, for 1847.  
 New York Journal of Medicine and the Collateral Sciences, November.

#### NOTICES TO CORRESPONDENTS.

Mr. Macdiermid's paper has been received, and will appear in the ensuing number.

Letters have been received from Dr. W. Hope, Belleville; Dr. C. W. Boutnee, Penetanguishine; Dr. O. Newell, Dunham; Professor Robb, King's College, Frederickton, New Brunswick; Dr. R. Parmelee, Waterloo, C. E.; Dr. Cote, Montreal.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR SEPTEMBER AND OCTOBER, 1846.

Remained, . . .	127	Discharged cured, . . .	254
Admitted, . . .	255	Irregular, . . .	8
		Died, . . .	14
Total treated, . . .	382	Remaining, . . .	106
		Total, . . .	382

IN-DOOR PATIENTS.		OUT-DOOR PATIENTS.	
Belonging to Montreal, . . .	140	Belonging to Montreal, . . .	303
Immigrants, . . .	88	Immigrants, . . .	79
Seamen, . . .	27	Seamen, . . .	5
Total, . . .	255	Total, . . .	387
Males, . . .	150	Males, . . .	189
Females, . . .	105	Females, . . .	198
Total, . . .	255	Total, . . .	387

DISEASES AND ACCIDENTS.			
Abscessus, . . .	3	Lumbago, . . .	2
Ambustio, . . .	6	Lapus, . . .	1
Amaurosis, . . .	1	Meningitis, . . .	1
Amenorrhœa, . . .	1	Menorrhagia, . . .	1
Asthma, . . .	2	Morbus Brightii, . . .	2
Bronchitis, . . .	7	" Cordis, . . .	1
Bubo, . . .	2	" Coxæ, . . .	1
Cerebritis, . . .	1	Mucous Pustules, . . .	1
Conjunctivitis, . . .	3	Necrosis, . . .	1
Contusio, . . .	13	Neuralgia, . . .	1
Cystitis, . . .	1	Edema, . . .	1
Cystirrhœa, . . .	1	Ophthalmia, . . .	1
Delirium Tremens, . . .	7	Orchitis, . . .	4
Debilitas, . . .	1	Ovaritis, . . .	1
Dislocation, . . .	1	Papillary Syphilide, . . .	1
Diarrhœa, . . .	10	Paralysis, . . .	2
Dysenteria, . . .	1	Periostitis, . . .	1
Dyspepsia, . . .	1	Phthisis, . . .	5
Emansio Monseine, . . .	1	Pleuropneumonia, . . .	1
Eczema Impetiginodia, . . .	1	Pleurodynia, . . .	1
Elephantiasis, . . .	1	Pneumonia, . . .	2
Epilepsia, . . .	3	Prurigo, . . .	1
Febris Com. Cont., . . .	75	Psora, . . .	2
" Typhus, . . .	10	Rheumatismus, . . .	11
" Intermittens, . . .	2	Scarlatina, . . .	2
Fractura, . . .	4	Sciatica, . . .	1
Furunculus, . . .	1	Scirrhus, . . .	1
Gonorrhœa, . . .	1	Scrofula, . . .	1
Hemorrhœa, . . .	2	Synovitis, . . .	2
Hernia, . . .	1	Syphilis, . . .	13
Hepatitis, . . .	1	Sublextatio, . . .	2
Hysteria, . . .	2	Tænia, . . .	1
Icterus, . . .	4	Ulcus, . . .	7
Impetigo Scabida, . . .	1	Vertigo, . . .	1
" Sparsa, . . .	1	Vulnus, . . .	2
Iritis, . . .	2		
Lepra Syphilidi, . . .	1		
		Total, . . .	255

ALEXANDER LONG, M.D., House Surgeon.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending OCTOBER 31, 1846.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,	Small Pox,	2	.	2	1	.	.	1	.	.	.	.	.	.	.
	Measles,	1	.	1	.	1	.	.	.	.	.	.	.	.	.
	Fever,	8	7	15	3	2	1	.	1	1	2	3	1	1	.
DISEASES OF BRAIN AND NERVOUS SYSTEM,	Convulsions,	.	1	1	1	.	.	.	.	.	.	.	.	.	.
	Dentition,	4	3	7	4	3	.	.	.	.	.	.	.	.	.
	Apoplexy,	2	1	3	.	.	.	.	.	.	1	1	1	.	.
	Inflam. of Brain,	3	.	3	2	.	.	.	.	1	.	.	.	.	.
DISEASES OF RESPIRATORY ORGANS,	Consumption,	14	13	27	3	3	1	1	2	4	2	2	6	2	.
	Croup,	1	2	3	.	2	.	1	.	.	.	.	.	.	.
	Dilatation of Heart	1	.	1	.	.	.	.	.	.	.	.	.	1	.
DISEASES OF ABDOMINAL VISCERA,	Diarrhœa,	3	2	5	2	.	1	1	.	.	.	.	1	.	.
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,	Debility,	3	6	9	.	.	.	.	.	.	.	.	.	7	2
	Drowned,	2	.	2	.	.	.	.	.	.	2	.	.	.	.
	Still-born,	4	1	5	.	.	.	.	.	.	.	.	.	.	.
	Inflammation,	4	3	7	.	2	1	1	.	2	.	1	.	.	.
	Scalded,	1	.	1	.	.	.	.	.	.	1	.	.	.	.
	Intemperance,	1	.	1	.	.	.	.	.	.	.	1	.	.	.
	Unknown,	1	1	2	1	.	.	.	.	.	.	.	.	1	.
Total,		55	40	95	17	13	4	5	4	8	8	8	9	12	2

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR OCTOBER 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1.	+42	+48	+40	+45.	29.80	29.85	29.89	29.85	N. E. by E.	N. E.	N. E.	Rain	Cloudy	Rain
2.	" 40	" 43	" 38	" 41.5	29.85	29.89	29.99	29.91	N. E.	N. E.	N. E.	Rain	Rain	Rain
3.	" 39	" 54	" 42	" 46.5	30.07	30.03	30.05	30.05	N. W.	N. W.	N. W.	Fair	Fair	Fair
4.	" 38	" 55	" 46	" 46.5	30.07	30.00	29.98	30.02	N. W.	N. W.	N. W.	Fair	Fair	Rain
5.	" 47	" 65	" 54	" 56.	29.97	29.96	30.07	30.00	N. W.	N. W.	N. W.	Rain	Fair	Fair
6.	" 51	" 68	" 52	" 59.5	30.28	30.14	30.05	30.16	N. W. by W.	W. N. W.	W. N. W.	Fair	Fair	Fair
7.	" 52	" 74	" 63	" 63.	30.02	29.98	30.04	30.01	S. W.	W.	W.	Fair	Fair	Rain
8.	" 53	" 63	" 53	" 58.	30.30	30.34	30.26	30.30	W. by S.	W. by S.	W. by S.	Fair	Fair	Fair
9.	" 45	" 51	" 44	" 48.	30.08	30.07	30.25	30.13	S. S. W.	S. S. W.	S. S. W.	Fair	Fair	Fair
10.	" 37	" 54	" 38	" 45.5	30.43	30.42	30.47	30.44	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
11.	" 39	" 53	" 44	" 42.5	30.50	30.40	30.30	30.40	N. W.	N. W.	N. W.	Fair	Fair	Fair
12.	" 39	" 63	" 54	" 51.5	30.17	29.97	29.93	30.02	W. by S.	W. by S.	W. by S.	Fair	Fair	Rain
13.	" 53	" 58	" 62	" 55.5	29.87	29.66	29.92	29.82	S. by W.	S. by W.	S. W.	Rain	Rain	Rain
14.	" 42	" 54	" 43	" 48.	29.70	29.77	29.74	29.74	W.	W.	W.	Fair	Fair	Fair
15.	" 40	" 48	" 41	" 44.	29.78	29.89	30.05	29.91	W.	S. W.	W.	Fair	Rain	Cloudy
16.	" 38	" 46	" 50	" 42.	30.10	29.86	29.76	29.91	S. S. W.	W.	W.	Cloudy	Rain	Rain
17.	" 36	" 40	" 31	" 38.	30.11	30.12	30.12	30.12	W. by N.	W. by N.	W.	Rain	Rain	Rain
18.	" 29	" 41	" 32	" 35.	30.05	30.00	30.04	30.03	N. E.	N. N. E.	N. N. E.	Fair	Fair	Fair
19.	" 25	" 43	" 34	" 34.	30.15	30.14	30.16	30.15	N. E.	S. W.	S. W.	Fair	Fair	Fair
20.	" 37	" 48	" 42	" 42.5	30.12	30.03	29.97	30.04	S. W.	S. W. by S.	S. S. W.	Fair	Fair	Fair
21.	" 38	" 44	" 43	" 41.	29.96	29.96	30.05	29.99	W.	W.	W.	Fair	Fair	Fair
22.	" 35	" 37	" 24	" 36.	29.95	29.78	30.00	29.91	W.	S. W. by W.	N. W.	Rain	Rain	Snow
23.	" 20	" 32	" 23	" 26.	30.03	29.92	29.72	29.89	N. W.	N. W.	N. W.	Fair	Snow	Snow
24.	" 29	" 37	" 30	" 33.	29.73	29.77	30.02	29.84	S. E.	W.	W.	Snow	Snow	Fair
25.	" 31	" 40	" 28	" 35.5	30.14	30.22	30.36	30.21	W.	W.	W.	Fair	Fair	Fair
26.	" 26	" 46	" 45	" 36.	30.38	30.08	29.88	30.11	S. W. by W.	S. W. by W.	S. by W.	Fair	Fair	Fair
27.	" 46	" 53	" 43	" 49.5	29.72	29.67	29.92	29.77	S. by W.	S. by W.	S. by W.	Rain	Rain	Fair
28.	" 31	" 35	" 33	" 33.	30.07	30.03	30.00	30.03	N. W.	N. W.	N. W.	Fair	Fair	Fair
29.	" 30	" 42	" 33	" 36.	30.00	30.01	30.13	30.05	N. W.	N. W.	N. W.	Fair	Fair	Cloudy
30.	" 28	" 38	" 27	" 33.	30.42	30.52	30.68	30.54	N. E.	N. E.	N. E.	Snow	Fair	Fair
31.	" 26	" 40	" 30	" 33.	30.77	30.74	30.72	30.74	E. N. E.	N. E. by E.	N. E.	Fair	Fair	Fair

THERM. } Max. Temp., +74° on the 7th.  
 } Min. " +20° " 23d.  
 Mean of the Month, +43°. 5.

BAROMETER, } Maximum, 30.77 Inches on the 31st.  
 } Minimum, 29.66 " " 13th.  
 Mean of Month, 30.069 Inches.

**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—OCTOBER, 1846.**  
*Latitude 43°. 39' 4". N. Longitude 79°. 21' 5". W. Elevation above Lake Ontario, 108 Feet.*

Day.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1,	29.491	29.533	29.498	29.505	51.8°	54.2°	47.4°	50.00	.281	.316	.267	.289	.74	.77	.82	.81	N. N. W.	E. by N.	N. E.		—	Densely overcast, slight P.M. from 7 p.m. till 11 p.m. Rem. part. cl'r. Aur.
2,	29.470	29.557	29.694	29.6103	46.5	53.0	40.8	45.98	.258	.273	.225	.262	.92	.69	.89	.85	N. by W.	N. N. W.	N. E.		0.070	High, 8 and 9 p.m.
3,	29.766	29.675	29.641	29.6838	41.0	54.9	44.6	47.42	.226	.316	.240	.275	.89	.74	.83	.85	Calm.	E. S. S.	Calm.		0.040	Very str. driz. P.M. in forenoon. At 1 p.m. clear till noon. After. part. cloud.
4,	29.597	29.603	—	—	49.8	55.5	—	—	.330	.380	—	—	.91	.88	—	—	N. W. by W.	S. W.	Calm.		—	Clear till noon. After. part. cloud.
5,	29.675	29.675	29.816	29.7448	46.1	64.0	49.2	52.50	.297	.419	.297	.332	.96	.79	.86	.85	N. W. by W.	S. W.	Calm.		not ap	Clouded till 4 a.m. Rem. cl'r & uncl'd
6,	29.869	29.733	29.673	29.7376	52.7	64.0	51.9	55.97	.242	.438	.354	.387	.90	.79	.93	.87	Calm.	S. E.	S. E.		—	Clear till noon. After. part. cloud.
7,	29.699	29.688	29.735	29.7177	52.6	68.0	65.2	63.58	.375	.539	.547	.500	.96	.81	.91	.87	Calm.	S. E.	S. E.		—	Clear till noon. After. part. cloud.
8,	29.903	29.940	29.908	29.9010	61.0	58.5	57.7	59.25	.480	.437	.453	.469	.92	.95	.97	.95	Calm.	N. E. by E.	E. by N.		0.250	Clear till noon. Th. P.M. & P.M. 10 & 11 p.m. Den. overcast. Oc. show. Th. storm 9 a.m. Den. overcast & str. P.M. am. Au. P.M. 8 p.m. Aur. P.M. 2 a.m. M. P.M. cl'r. Pass. cl'ds
9,	29.854	29.838	30.029	29.9268	57.8	56.5	42.6	52.57	.460	.365	.224	.359	.98	.81	.83	.86	Calm.	N. N. W.	N. N. W.		0.075	Mostly clear. Occas. passing clouds.
10,	30.132	30.134	30.118	30.0301	38.9	48.3	48.6	44.06	.184	.275	.211	.252	.92	.90	—	.87	N. E.	S. E.	N. N. E.		0.015	Aur. P.M. till 4 a.m. Raining from 7 p.m. Aur. P.M. till 4 a.m. Raining from 7 p.m. Aur. P.M. till 4 a.m. Raining from 7 p.m.
11,	30.053	29.934	—	—	49.4	53.1	—	—	.318	.335	—	—	.92	.90	—	—	S. E.	E. N. E.	N. N. E.		—	Aur. P.M. till 4 a.m. Raining from 7 p.m. Aur. P.M. till 4 a.m. Raining from 7 p.m.
12,	29.690	29.538	29.574	29.5750	54.8	62.8	52.3	56.57	.341	.401	.364	.378	.81	.72	.95	.84	Calm.	S. S.	N. by W.		0.405	Partly clear. Detach. pass. clouds
13,	29.444	29.038	29.146	29.5227	48.8	46.8	43.4	44.55	.313	.302	.235	.264	.91	.95	.84	.90	Calm.	N. by W.	N. W. by W.		1.760	Partly clear. Detach. pass. clouds
14,	29.417	29.414	29.423	29.4259	34.5	52.0	43.7	44.44	.189	.227	.259	.245	.95	.67	.92	.85	Calm.	S. E.	S. E.		—	Partly clear. Detach. pass. clouds
15,	29.519	29.618	29.680	29.6194	37.2	50.4	41.8	44.30	.192	.197	.191	.211	.87	.55	.73	.74	Calm.	W. by S.	W. by S.		—	Partly clear. Detach. pass. clouds
16,	29.489	29.422	29.523	29.523	48.4	57.1	46.2	49.75	.302	.434	.244	.317	.90	.95	.95	.87	S. E.	S. E.	N. N. W.		—	Partly clear. Detach. pass. clouds
17,	29.941	29.818	29.820	29.8263	32.9	35.9	30.4	34.32	.176	.172	.140	.169	.95	.82	.82	.86	N. by W.	N. W. by N.	N. W. by N.		0.150	Partly clear. Detach. pass. clouds
18,	29.824	29.756	—	—	34.4	41.4	—	—	.138	.170	—	—	.69	.66	—	—	N. N. W.	N. W. by N.	N. W. by N.		0.40*	Partly clear. Detach. pass. clouds
19,	29.783	29.739	29.699	29.7189	31.6	47.1	41.5	42.80	.162	.151	.200	.200	.92	.57	.76	.74	Calm.	S. W.	S. W.		—	Partly clear. Detach. pass. clouds
20,	29.604	29.607	29.716	29.6583	43.1	44.1	35.1	39.92	.268	.225	.179	.213	.97	.79	.88	.86	S. by E.	W. by S.	W. by S.		0.215	Partly clear. Detach. pass. clouds
21,	29.768	29.760	29.765	29.7537	33.0	40.3	36.7	37.92	.165	.159	.176	.180	.88	.76	.81	.79	Calm.	W. N. W.	W. N. W.		—	Partly clear. Detach. pass. clouds
22,	29.581	29.726	29.880	29.7336	37.2	34.9	25.6	30.61	.195	.158	.133	.151	.89	.78	.94	.87	S. S. W.	N.	Calm.		0.050	Partly clear. Detach. pass. clouds
23,	29.712	29.336	29.403	29.4534	36.1	40.5	38.0	36.05	.130	.215	.197	.174	.89	.86	.87	.86	Calm.	N. W.	W. S. W.		—	Partly clear. Detach. pass. clouds
24,	29.476	29.625	29.771	29.6915	34.8	45.2	32.7	38.25	.157	.159	.157	.177	.89	.86	.87	.86	Calm.	N. W.	W. S. W.		—	Partly clear. Detach. pass. clouds
25,	29.927	29.914	—	—	39.9	48.6	—	—	.198	.246	—	—	.82	.73	—	—	S. S. W.	S.	Calm.		—	Partly clear. Detach. pass. clouds
26,	29.833	29.592	29.430	29.5555	35.8	52.1	52.4	49.24	.138	.306	.330	.300	.95	.80	.86	.86	Calm.	E. by S.	S.		—	Partly clear. Detach. pass. clouds
27,	29.327	29.483	29.671	29.5585	49.6	46.8	39.1	42.72	.321	.227	.184	.223	.92	.72	.78	.80	N. N. W.	N. W. by N.	N. N. W.		0.315	Partly clear. Detach. pass. clouds
28,	29.809	29.722	29.689	29.7190	29.6	40.0	31.2	32.97	.146	.159	.166	.155	.89	.65	.95	.83	W. by N.	N. W. by N.	N. W. by N.		—	Partly clear. Detach. pass. clouds
29,	29.643	29.683	29.846	29.7605	36.0	46.8	37.6	33.96	.151	.188	.141	.179	.86	.59	.76	.73	W. by N.	N. W. by N.	N. W. by N.		—	Partly clear. Detach. pass. clouds
30,	30.000	30.125	30.184	30.1303	34.1	38.6	33.9	33.96	.158	.147	.141	.144	.79	.63	.71	.71	Calm.	N. by E.	N. E.		—	Partly clear. Detach. pass. clouds
31,	30.192	30.086	30.029	29.9997	31.6	36.8	40.2	33.23	.154	.203	.238	.218	.87	.94	.97	.88	N. E.	N. E.	N. E.		—	Partly clear. Detach. pass. clouds
Mean	29.7070	29.6706	29.7206	29.6960	41.39	49.61	42.19	44.81	.245	.280	.242	.260	.90	.76	.86	.84					4.180	

\* A little melted snow in the rain entered on the 17th, 18th, and 24th.

† 4th. 8h. 25m. pm. a meteor of extraordinary size appeared in SE. About three seconds after the disappearance of the meteor a sound like a distant peal of thunder was heard.—17th, about 9 pm. another very large meteor appeared, about 9 s. of Zenith, and passing due N., disappearing about 10° from horizon.

Highest Barometer, 30.901 at 2 a.m. on 31st.  
 Lowest do., 29.470 on 13th.  
 Highest Temperature, 70° on 31st.  
 Lowest do., 29° on 23rd.  
 Mean Daily Range, 14° on 31st.  
 Extreme Daily Range, 34° on 31st.

Under the head of Tension of Vapour, is given the elastic force of the aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to its presence. The Instruments are Standard Instruments. The Rain Gauge is 27 in. above the soil.—The Means entered are the Means by 24 hourly Observations, from 6 a.m. to 6 a.m. The Observations entered at 7 a.m., on Sundays, are actually taken at 9 a.m. The two Observations taken on Sundays are not included in any of the means.

Temperature for October.

Year.	Max.	Min.	Range.	No. Days.	Inches.	No. Winds.	Calms.	Mean force
1840.	44.9°	33.0°	11.9°	13	1.860	206	106	0.41
1841.	41.8	27.6	14.2	6	1.697	393	106	0.35
1842.	46.3	30.6	15.7	8	6.175	226	303	0.54
1843.	41.32	24.9	16.4	12	3.790	321	303	0.43
1844.	43.66	16.9	26.7	7	1.245	302	346	0.26
1845.	46.49	19.7	26.7	11	1.760	311	337	0.26
1846.	44.31	20.7	23.6	14	4.180	436	212	0.44

Rain.

Winds.

Calms.

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[No. 9

**ACUTE LARYNGITIS, EPIDEMIC ON THE RIDEAU CANAL IN 1829 & 1830.**

By PETER H. CHURCH, M.D., Aylmer, C.W.

(Extract of Thesis presented to the University of McGill College, in conformity with the Statutes for Graduation. May 24, 1846.)

My object in choosing this as the subject of my thesis is to draw the attention of the Faculty to a type of this disease, which made its appearance in the vicinity of the Rideau Canal during the time I practised in the Johnstown District, in 1830, in the form of an epidemic.

I will, in the first place, enumerate the symptoms of simple acute laryngitis, for the purpose of shewing the difference between it and that which made its appearance in the epidemic above mentioned.

The following may be taken as the diagnosis of acute laryngitis. At the first onset the symptoms rarely differ from those of ordinary sore throat; but sooner or later there is a sense of constriction, heat, or pricking in the region of the larynx, which is at times very severe when the patient speaks or coughs, or when pressure is made on the larynx. At the same time, or even before the occurrence of these symptoms, there is more or less fever. The voice, as well as the cough, is hoarse, and at first dry; but subsequently an expectoration of mucus takes place, and at times the sputa are mixed with blood. This sensation of mucus is of little moment in the case of the adult, but becomes serious in infants. Deglutition is at times difficult, or effected with inconvenience, and the inspirations are long and laborious, but by no means to the same extent as in croup, or œdema of the glottis. In very severe cases the dyspnoea recurs at short intervals with spasmodic force, and there is danger of suffocation, with great distress, restlessness, and starting of the eyes, followed up, if the disease be not removed, by evident sinking of the vital powers and death.

The duration of the disease, when it terminates fatally, varies, of course, according to the constitution of the patient, the extent of the lesion, and the effects of remedies. The usual duration is from three to five days, yet it has proved fatal in less than twenty-four hours.

Seldom has the section of country, referred to above,

been visited by a disease so fatal as the one which I am about to describe. It made its appearance in the fall of 1829, and following winter, spreading devastation around. Its attack was so sudden, and its termination so speedily fatal if left to the operation of nature, that the physician was often called in time only to see his patient convulsed in *articulo mortis*, without having it in his power to render him that professional aid which, if timely administered and properly directed, might, in a majority of cases, have afforded relief. No class or condition was exempt from its ravages; the wealthy and the poor both suffered, though the latter, from being more exposed to its predisposing causes, became an easier prey. It made great havoc among the labourers on the Rideau Canal, more especially among the stone-cutters. They were generally attacked after returning from their work in the evening, and so rapid was its course, that if not relieved within twenty-four hours, it almost always proved fatal. The patient, after enduring the most agonising sufferings, generally fell into a comatose state and died. I shall call the disease acute laryngitis, accompanied or attended with erysipelatous inflammation of the head and face.

*Symptoms.*—It was characterized by fever, pain referred to the larynx, difficulty of breathing and deglutition, hoarseness, or a complete loss of the voice, and frequent spasmodic exacerbation of all the symptoms, creating a sense of suffocation, which was urgent in the extreme. In some cases the pain was increased by pressure upon the thyroid cartilage. The disease was attended with a perpetual hawking or spitting up of tough gelatinous mucus. There was an inability to put the tongue out between the teeth, as it much increased the pain and difficulty of breathing, and it was with the greatest persuasion that the patient could be prevailed upon to swallow either food or medicines. The attempt was accompanied by such strong spasms, that the fluid was driven forcibly through the nose. In about six or eight hours after the disease made its attack in the manner just related, a small red spot appeared on one or both of the temples, which in a few hours more extended to the scalp and face; small vesicles containing limpid, and in some cases a yellowish fluid, now became visible, and gradually extended over the whole inflamed surface,

accompanied with an itching which was intolerable, and when indulged, served to make the patient more irritable. On the appearance of the erysipelatous inflammation, the patient was generally attacked with delirium. Sometimes it made its appearance at a later period, but when it did come on it gradually increased, until it arrived at a state of phrenzy. The face became turgid, eyes starting, and seemed as if bursting from their sockets, tears and sometimes blood flowing from them. The patient, during his ravings, had a constant desire to get out of bed; and sometimes it required the united strength of two or more men to detain him in it. The pulse, at the commencement of the disease, was generally full, hard, and quick, resisting the application of the finger with considerable force; and as the disease advanced, the pulse became more frequent; and when the patient began to sink into a comatose state, which was always the case at the close of the disease, it became intermittent. The stomach was much affected with nausea, and vomiting of bilious matter, which, although attended with considerable pain and anxiety during the evacuation, never failed to give the patient great relief. Respiration became less oppressive, but in a short time he would be revisited by violent spasms, with a recurrence of all the symptoms, and if not relieved by timely aid, was irretrievably lost.

*Causes.*—Various were the opinions of the medical practitioners of this country with regard to the cause of this disease, some attributing it to specific contagion, arguing from its extreme prevalence; for if it occurred in a family, or a neighbourhood, few were so fortunate as to escape the disease; others alleging that it arose from an epidemic state of the atmosphere, the latter of which, I think, from the observations I have been able to make, is the most correct. In many instances, cold appeared to have great influence in bringing on the malady; hence its frequent occurrence among the labourers of the Rideau Canal, and more particularly the stone-cutters, whose occupation required them to be exposed to the inclemency of the weather, while it at the same time abridged the exercise of the body to such an extent that cold had a powerful effect upon them. It is my opinion that cold and an epidemic state of the atmosphere were the causes of this disease, one acting as a remote and the other as an exciting cause.

On looking over my brother's (Dr. B. R. Church's) case-book, together with my own, I found that we had four hundred cases in four months, which were doubtless owing to epidemic influences. In such a large number of cases, we must look for some other cause than cold to produce a disease of such a character. No

doubt the malady might, in many instances, have been brought on by cold, but could such a cause, unaided, have produced so prevalent a disease.

*Dissection.*—The morbid effects that appeared, upon dissection, in the few cases that fell under my inspection were, first, a highly inflamed state of the larynx which generally extended to the trachea, and sometimes through the ramifications of the bronchi; but the last was not generally met with.

The abdominal viscera appeared in a healthy state. Upon examination of the cranium, its contents presented the appearances of inflammatory action. The dura mater, tunica arachnoidea, and pia mater, exhibited such phenomena in a remarkable degree; effusion of coagulable lymph, adhesions, and, in some cases, pus was found covering a portion of the membranes, or the membranes themselves were found eroded by ulceration. But this latter occurrence was by no means frequent.

*Prognosis.*—Convulsions, coma, insensibility, and great prostration of strength, were unfavourable symptoms. The disease often terminated by the fourth or sixth day. The general fever, the delirium, the sparkling fury of the eyes, the dryness of the skin, abating, showed that the patient was likely to recover. A discharge from the nose or lungs, the occurrence of diarrhoea, or an evacuation from the hemorrhoidal veins, or urinary passages often proved critical, particularly if the pulse abated, became softer, and lost its febrile character.

[We consider it unnecessary to follow Dr. Church through the principles which guided the selection and application of remedial agents. Suffice it to say, that these consisted in *free* depletion, adopted at the commencement of the attack; the application of blisters to the larynx, thighs, warm pediluvia, with sinapisms to the soles of the feet, and the internal exhibition of calomel, and tartar emetic conjoined with digitalis. The following case, which concludes the essay, may be taken as an example of the mode in which the disease manifested itself, as well as of the treatment pursued —Eds.]

Charles Stone, aged 22, a blacksmith, was seized with chills, which were followed by fever, pain in the fauces, difficulty of deglutition, pain in the head, inability to put the tongue out between the teeth, a teasing cough, great thirst, and inflammation of an erysipelatous character, extending from one temple across the forehead to the other. Eighteen hours after the attack I visited him, and found the pulse hard and full, bounding like the tense string of a musical instrument under the finger, face flushed, and some difficulty of breathing; complained of great soreness of throat



and, upon his attempting to swallow some fluid, it was driven with great force through the nose. Considering the case to be urgent, I immediately opened a vein, from which I took twenty ounces of blood; and, finding the pulse becoming soft and more compressible, I closed the orifice, and applied a blister to the throat. After the blister had taken effect, which was in about six hours, I again had recourse to bleeding, and finding my patient able to swallow, I administered five grains of proto-chloride of mercury every two hours until the bowels should be freely acted upon, and bathed the feet and legs in warm water, impregnated with salt. After wiping them dry, I applied sinapisms to the feet.

On calling the next morning I found the bowels had been acted upon; he had slept about two hours; deglutition not quite so difficult; pain in the head great; face very much swollen, and covered with small vesicles, containing a yellowish fluid; pulse full and rather hard. I repeated venesection, and administered antim. tartariz. in the quantity of gr. iiii. to a quart of water, one ounce of which to be taken every two hours; applied a blister between the shoulders, cotton wool to the face, kept wet with a solution of 10 grains of perchloride of mercury in a quart of water.

Wednesday morning.—The bowels had been evacuated two or three times; the deglutition much more tolerable; pain in the head relieved; patient complained of griping pain in the bowels, with a tendency to diarrhœa. Ordered 15 grains of rhubarb, 6 grains proto-chloride of mercury, and at night 20 grains of pulv. ipecac. comp.

After the operation of the purgative, next morning (Thursday) found the patient had rested well through the night, pulse eighty, and compressible, having lost its tense vibrating character; deglutition much more easy; the inflammation of the face less. Continued the tartrate of antimony once every four hours, and the application to the face as above.

Friday morning.—The patient had rested well, with the exception of a slight pain in the right temple, which increased through the day. In the evening, I removed the wool from the part; found the right side of the face much tumified, the right eye was nearly closed; the patient complained of a throbbing, beating sensation in the part; it was evident that the inflammation had assumed the phlegmonic type. Applied an emollient cataplasm to the part, with directions to renew it every three hours, keeping the wool on the left side of the face, and over the nose, which was very much swollen. Pulse 105, and jerking. Opened the bowels with sulphate of magnesia and antim. tartariz.

Saturday morning.—Pain and inflammation was much

the same as on the preceding morning. Parts much more tumified; fluctuation could be distinctly felt. I decided upon laying the parts open with the scalpel, in order to release the tension of the parts, and obviate the infiltration into the cellular substance, as experience had taught me that no distinct abscess would be formed, that no adhesive inflammation would take place so as to form a distinct cyst to prevent the escape of pus into the surrounding cellular tissue. I accordingly made an incision into the part, cutting in the direction of the fibres of the temporal muscles; a profuse discharge of blood, mixed with pus, took place, and the patient was greatly relieved. Continued the emollient cataplasms to the tumor, and the application to the left side of the face as above.

Sunday morning.—Patient much better; tumefaction mostly subsided; fever abated; pain in the fauces, and soreness of the throat gone; dressed the wound with simple cerate. He continued to improve, with little variation, until health was completely restored.

#### CASE OF GUNSHOT WOUND OF THE LUNGS: RECOVERY.

By GEORGE W. CAMPBELL, A.M., M.D.,  
Lecturer on Surgery, McGill College, Montreal.

About half past five on the evening of the 12th September last, I was called to visit Mr. M., a young gentleman at the Exchange Hotel, who, a few minutes previously, had received a severe pistol shot wound under the following circumstances:—He was about to start on a journey into the country, and as he intended to travel all night, had provided himself with one of Colt's revolving six barrelled pistols. A companion requested the pistol to look at it, and during his examination, not being acquainted with the mechanism of the lock, it unfortunately went off, the muzzle being in the direction of Mr. M., who was at the time standing with his left side towards his friend, and about three yards distant. Mr. M. was about 20 years old, tall and spare, but muscular and active, with a well formed chest, although possessing a hereditary predisposition to pulmonary disease. Upon my arrival, I found him suffering much from pain and nervous depression, with faintness and difficulty of breathing. He was supported in the arms of a friend, in the standing position, and held his hand firmly pressed against his left side, towards which he leaned, and where, he said, the bullet had entered. I had him immediately carried up stairs to his bed room, and was in the act of undressing him, when Dr. Nelson, senior, who had also been sent for, arrived. Upon removing his clothing, we found that the bullet, passing through his vest, shirt, and woollen jacket, but without



apparently carrying before it any portion of these articles of apparel (as the rents made in each were mere slits), had entered the left side of the chest, about three inches below, and a very little to the outside of the nipple. The wound was small and circular, with depressed and livid margins, and the bullet, apparently, had passed through the intercostal muscles, in the space between the fifth and sixth ribs, close to their junction with their cartilages: the upper border of the inferior rib was grazed, and the bone was felt bare, but not fractured. Although a very careful examination of the wound with the finger and probe, failed in detecting the trajet of the bullet, either into the cavity of the thorax, or in any other direction, still, from the great severity of the symptoms, the position in which our patient was when he received the injury, and the ascertained power of the weapon, which, we were told, at a distance of twelve paces, could drive a bullet through an inch board, we thought it possible that the bullet, passing through the lungs, had lodged in the spine, we accordingly carefully examined the dorsal vertebræ, but without detecting any tenderness. A broad bandage was applied to the chest to restrain the motions of the ribs in respiration, with a bit of folded lint laid over the wound, and as our patient was still suffering from the shock of the injury, with pale countenance, rapid, feeble pulse, cold skin, hurried and difficult respiration, with great pain in the situation of the wound, we administered a drachm of laudanum, which Dr. Nelson had along with him, ordered heat to be applied to the extremities, and agreed to return within two hours, when we expected reaction would have commenced.

7½ p.m.—Upon our return we found that reaction had set in; the surface of the body had regained its natural heat; the pulse had become full and hard, ranging from 110 to 120; respiration hurried, being about 45 per minute; any attempt at full inspiration impossible; pain in side extending through to back much complained of; voice weak and suppressed; position in bed semi-recumbent; dyspnoea very distressing. The bandage, he said, had occasioned intolerable pain, and had been removed; there was no expectoration of blood, which we anticipated would, by this time, have shown itself, and very little oozing from the wound. Venesection was employed to about 2 lbs. with relief, and he was put upon 1-6 of a grain of tart. antimon. and 2 grains nitræs. potassæ every half-hour, with two drops of the solution of muriate of morphia added to each dose, to check a tendency to cough which greatly distressed him.

10 p.m.—It was proposed by the friends of our patient to associate Dr. Crawford with us in the treatment of the case; he was accordingly sent for; upon his ar-

rival, about 11 p.m., the symptoms were much as at last report; the pulse however was weak from the bleeding—120 in number. The breathing was so peculiarly spasmodic and catching, that it induced Dr. C. to believe that the diaphragm was wounded. The antimonial mixture was continued as formerly; and a scruple of calomel with two grains of opium was administered.

Sept. 13, 7½ a.m.—Had passed a very restless night; no sleep procured by the opium; slight occasional wandering; tongue still moist; pain and dyspnoea urgent; pulse had again become firm—120; no bloody expectoration. Upon percussing the chest a dull sound was elicited for some distance round the entrance of the bullet; and upon the application of the stethoscope, a crepitating rhonchus was audible for three inches around the same point; the crepitation was coarser and louder than in pneumonia, and in some situations it almost amounted to a bubbling sound. As the pulse had regained its firmness, venesection was repeated to upwards of 20 ounces; the antimony was increased to ½ of a grain in the half hour, and a seidlitz was ordered to be administered every hour till the bowels were acted upon.

At our visit at one in the afternoon, we found him somewhat easier. The blood drawn was cupped and buffy; the seidlitz powders had not acted on his bowels; injections were ordered to assist them. Upon visiting him alone somewhat later in the afternoon, during the time that his bowels were being acted on, I found that he complained of very acute pain in the back, referred to the hand of the assistant who was raising him upon the bed pan. Upon making an examination at the point referred to, I discovered the rounded form of the bullet lying deep under the muscles of the back, and immediately cut down upon and extracted it; it had passed out of the thorax between two of the ribs, close to their attachment to the transverse processes of the vertebræ, about an inch and a half internal to the lower angle of the scapula, and about the same distance from the dorsal spines; the upper edge of the inferior rib was rough, but without fracture; the edges of the incision were brought into close apposition by adhesive plaster; bleeding from the wound was very trifling. The bullet was small, weighing little over a drachm, and of a conical or sugar-loaf form; it seemed to have passed through the body with the small end foremost, as some fine filaments of the woollen jacket were found sticking in a slight notch on its point.

10 p.m.—Bowels had been freely moved during the evening; felt altogether easier, and was in high spirits about the extraction of the bullet; respiration still very hurried, though not attended with so much pain; pulse

120 soft; slight moisture on skin; calomel and opium, 5 and 2 grains was repeated; the tart. antimon. mixture to be continued.

Sept. 14.—He passed a tolerable night, occasionally getting half an hour's sleep; dyspnoea still urgent; complained a good deal of pain in the side and back; pulse quick but weak; dulness of sound on percussion increasing in extent, and crepitating rhonchus heard over a greater space than yesterday morning; the same description of respiration was audible for some distance round the wound in the back; 12 leeches were ordered to be applied to the side; and the tart. antim., of which he had taken 12 grains during the last 24 hours, without either nausea or vomiting, to be continued.

In the evening he was much easier; the leeches had bled well with relief; 5 grains of calomel, with 10 of Dover's powder, were given at bed-time.

Sept. 15.—In the early part of the night, was quiet, though he did not sleep; towards morning pain returned with severity; respirations 40 per minute; pulse 130; fuller than yesterday; dulness of sound on percussion increased, and respiration quite inaudible for some distance round wound; crepitant rhonchus heard only at margins of effusion; was bled again from the arm to 16 ounces; the seidlitz to be repeated as the bowels had not been opened for 24 hours; the antimonial mixture to be continued as formerly.

Sept. 16.—Passed rather a good night; pain and dyspnoea less urgent, though any attempt at full inspiration was still impossible. For the first time, during the night had coughed up one or two small clots of blood. Pulse 112; heart's impulse stronger than indicated by the pulse; respirations 36; stethoscopic indications as at yesterday's report; bowels had been freely acted on by the seidlitz; tongue moist, partially coated with white aphthous spots; gums not at all tender; 20 leeches to be applied to the chest. In the evening, as the aphthous state of the tongue and fauces was much complained of, the vinum ipecac. and tincture of digitalis were substituted for the tart. antimon. in the mixture, and a borax and alum wash administered for the mouth, with the internal use of antacids.

Sept. 17.—Much improved in every respect. Pulse 108 soft; respirations 30; neither pain nor dyspnoea complained of; no more blood expectorated; able to lie with the head pretty low; requested something to eat; anterior wound discharging a bloody serosity in very small quantity; posterior incision quite cicatrized. To be allowed a little thin broth.

Sept. 18.—Still continues improving rapidly. Pulse and respiration diminishing steadily in frequency; pain no longer felt unless upon motion or full inspiration;

tongue becoming clean; skin moist; other functions natural. The case, after this, progressed most favorably. The space over which there was dulness on percussion, and want of respiration from day to day diminished, the breath sound being at first subcrepitant and gradually becoming natural.

Drs. Nelson and Crawford discontinued their attendance on the 21st. After this, nothing of importance occurred. The medicines were gradually diminished, and diet increased. On the 26th he was sufficiently recovered to take an airing in a carriage; and on the 1st of October he left for his home, a distance of 50 miles, (nearly all a land journey) quite free from cough or any other symptom of chest affection. The day before his departure, I examined his chest, and found, for the space of nearly an inch, around both the anterior and posterior wounds, dulness on percussion, and complete want of breath sound, but no rhonchus of any description was audible.

The above case is interesting to the practical surgeon in many particulars; it affords a good illustration of the value of the stethoscope as a means of diagnosis; in the first place, in determining the existence of a wound of the lungs at all, which, in the absence of bloody expectoration, and our not being able to trace the trajet of the bullet into the cavity of the thorax, could not have been, with any degree of certainty, made out without its assistance; and secondly, by enabling us daily to trace the progress of solidification, from engorgement of the lung, in the early stages of the injury, and the effect of the treatment, and the progress of the cure, by absorption of the effused blood, as the case advanced towards a favorable termination.

The absence, also, of bloody expectoration for the first three days, is a most unusual occurrence in injuries of this description. Hennen lays great stress on this symptom as a means of diagnosis: "A practical surgeon," he says, "will require but little investigation; bloody expectoration *immediately* on receiving the wound, and the terrible symptoms of dyspnoea," etc. etc. The only surgical author that I have met with, who considers "its absence as no proof of the lungs uninjured," is Professor Chelius.

The small size and pointed form of the bullet producing a wound through the intercostal muscles, which immediately closed upon its trajet, a mere separation, so to speak, without division of their fibres, completely prevented the occurrence of a common symptom in such injuries, the effusion of blood, and the escape of air from the wound. The same circumstance prevented the ingress of the atmospheric air, the collapse of the lungs, or the occurrence of emphysema. The form of

the projectile, also, by producing but a small amount of bruising or tearing in its passage through the chest, materially diminished the severity of the injury, contributed to the success, and shortened the duration of the treatment.

From the entrance and exit of the bullet, it is very difficult to conceive how the heart escaped injury, in its passage through the thorax. The heart's pulsation was distinctly felt, a quarter of an inch internal to the anterior wound, and the posterior orifice was somewhat superior, and nearer the mesial line of the body than the anterior. We can only account for its escape by supposing, that the elasticity and toughness of the pericardium protected from injury the important viscus contained within it.

I trust that the detail of the above case may prove useful to the medical student, and the junior members of our profession, by encouraging them to hope for success from active and energetic treatment even in serious injuries of vital organs, which are too frequently considered hopeless, and which, on that account, are apt to be less actively treated than they ought to be.

Montreal, 22d December, 1846.

#### THE PERMANENT RELIEF OF TOOTHACHE.

To the Editor of the British American Journal.

SIR,—In a country where so many are martyrs to this species of suffering, you will, I think, be conferring a general benefit, by making known through the medium of your journal, the following simple, and, as I have found it, successful method of securing carious teeth from the effects of cold and changeable weather, and keeping them perfectly free from pain at all times. This wonder-working remedy! consists in the daily and habitual use of a weak solution of creosote, saturating the tooth-brush with it and using it first; after which cold water and whatever tooth-powder the individual may be in the habit of employing.

This practice, in my own experience, and in that of others at my suggestion, I have found a very successful preventative to toothache arising from the presence of carious teeth. I am rather disposed to believe, too, (contrary to the opinion of some dentists) that the carious process is suspended by its employment; but on this head I would not be confident, although Reichenbach has recorded cases of caries cured by the use of the watery solution of creosote.—“Bulletin General de Therapeutique for May, 1835.” M. Fremanger is also of the same opinion as to its effects, and considers that it acts “by combining with the calcareous salts of the bones and forming a new combination, which, by its

solubility, tends to disengage the areolar tissue and stop the ulceration at the proper point for the commencement of cicatrization.”—“Cormack on Creosote.” I wish the profession in Canada would take up the subject.—Yours respectfully,

J. D. McDIARMID,  
Staff-Surgeon, Prescott.

R Creosote, 3i; Spt. Rectificat, 3ss.; Aq. Destillat, 3viiss. m.

It may be colored with cochineal.

### ANATOMY AND PHYSIOLOGY.

#### ON THE GANGLIA AND NERVES OF THE HEART, AND THEIR ANALOGY TO THOSE OF THE UTERUS.

By ROBERT LEE, M.D., F.R.S.

The human heart was supposed by the Greek philosophers to be copiously supplied with nerves. Galen asserted that the heart has only one small nerve, which descends to it from the brain. Fallopius affirmed that a great plexus of nerves passes between the aorta and pulmonary artery from the par vagum and sympathetic nerve to the base of the heart, which it supplies with numerous branches. In 1792, Behrends, pupil of Soemmering, published an essay, entitled “Dissertatio Inauguralis qua Demonstratur Cor Nervis Carere,” in which he pronounced the heart to be a stupid and insensible viscus. “Cor stupidum,” he says, “et insensile viscus.” In 1794, Scarpa’s “Tablæ Neurologicæ” were published, in which branches of nerves from the great sympathetic and par vagum were represented passing to the heart, and accompanying the coronary arteries to its apex. In Scarpa’s engravings of the nerves of the human heart, only a few small filaments are represented, which proceed to the muscular structure, and which do not accompany the coronary arteries; but on the surface of the heifer’s heart large branches are represented passing across the bloodvessels and the muscular fibres. On one of these branches accompanying the left coronary artery, there is a distinct gangliform enlargement. In the engravings of the nerves of the human body, published by Mr. Swan, the bloodvessels and muscular substance of the heart are represented as nearly destitute of nerves. In 1839, Remak stated that he had discovered in the human subject small ganglia on the filaments of the cardiac nerves, as they remify on the surface of the heart. These ganglia he described as very small, but when examined with the microscope, “the characteristic grey corpuscles placed among the filaments of the nerves left no doubt as to their nature.”

In vols. xli. and xlii. of the *Philosophical Transactions*, I have described and represented, in three engravings, numerous great ganglia and plexuses of nerves which enlarge with the coats, bloodvessels, and absorbents, during pregnancy and which return, after parturition, to their original condition before conception takes place. Recent dissections which I have made of the ganglia and nerves of the virgin and of the gravid uterus have enabled me, not merely to confirm the accuracy of these descriptions and delineations, but to discover the still more important anatomical and physiological truth, that there are ganglia situated in the muscular substance of the uterus and plexuses of nerves which accompany all the arteries, veins, and absorbents, distributed throughout its walls. It is demonstrated by these dissections that there are not only great ganglia at the neck and on the body of the uterus, but ganglia between the strata of the muscular fibres; and that the whole vascular and muscular structure of the organ are pervaded with ganglia and nerves. If the dissections which I have made of the ganglia and

nerves of the virgin uterus be compared with those of the gravid uterus, it will be seen that the nervous structures of the uterus enlarge during pregnancy upwards of seventy times.

There is still a small number of anatomists left in Great Britain, who assert that the uterus is an insensible organ, that it has no ganglia, and only a few small filaments of nerves, like sewing threads, which undergo no change during pregnancy. The exquisite sensibility and prodigious contractile powers of the uterus during parturition, they maintain, do not depend upon nervous influence. The heart has been adduced, as furnishing a striking example of a powerful muscular organ acting, without interruption, during a long series of years, though very sparingly supplied with nerves. None of these anatomists have ever dissected the nerves either of the uterus or of the heart; and plates of Scarpa and of Swan have furnished the only evidence they could adduce in support of their opinion, that the substance of the heart, like that of the uterus, is nearly destitute of nerves.

I resolved to dissect with a microscope the nerves of the heart, while covered with alcohol, as I had done those of the uterus; of the heart of the child at the age of six years; of the heart of an adult in a sound state: of the human heart greatly hypertrophied; and of the heart of the ox; warrant me in drawing the following conclusions:—

1. That the muscular and vascular structures of the auricles and ventricles of the heart are endowed with numerous ganglia and plexuses of nerves, which, so far as I know, have not yet been described.

2. That these nervous structures of the heart, which are distributed over its surface, and throughout its walls to the lining membrane and the columnæ carneæ, enlarge, with the natural growth of the heart, before birth, during childhood and youth, until the heart has attained its full size in the adult.

3. That the ganglia and nerves of the heart enlarge, like those of the gravid uterus, when the walls of the ventricles and auricles are affected with hypertrophy.

4. That the ganglia and nerves which supply the left auricle and ventricle in the normal state are more than double the size of the ganglia and nerves distributed to the right side of the heart.—*Lancet* November 7, 1846.

#### ON THE NERVES OF THE UTERUS.

By T. SNOW BECK, Esq., M.R.C.S., London.

The opinions of Dr. Robert Lee, and of myself, upon this subject, having been so frequently quoted in opposition to each other, perhaps it may not be inappropriate to give a short account of the opinions of each, and that they may be more readily compared, to place them in juxtaposition. Nor does it appear improper to add to this account the statements of the principal authors upon the same subject, and then to examine the points in which any difference of opinion exists.

The chief new statements, which are found in Dr. Lee's late papers, comprise assertions relative to the existence of large ganglia and plexuses, which completely cover the whole surface of the gravid uterus; the large size of the nerves which enter into the formation of those plexuses; the great increase which occurs in them during pregnancy, and their returning, after parturition, to the state in which they were previous to impregnation; and the large size of the ganglia at the neck of the uterus, and on the vagina. Each of these statements, however, will require a separate examination.

##### DR. LEE'S VIEWS.

The whole surface of the gravid uterus is covered with large ganglia and nervous plexuses, which are named as follows:—

*The anterior subperitoneal ganglia and plexuses*, which

##### MR. BECK'S VIEWS.

These various ganglia and plexuses described on the body of the uterus are not nervous structures, but a layer of organic muscular fibres, which, in many parts, adheres to the under surface of the pento-

cover the whole anterior surface of the uterus as high as the fundus.—These structures are firmly adhered to the peritonæum and muscular coat of the uterus at the upper part, but are separated from the muscular coat at the lower part by a thick soft layer of cellular tissue. The middle part of the ganglion is more than two lines in thickness, but it becomes everywhere thinner towards the circumference, and particularly at the inferior border. Large, broad, flat, and innumerable nerves are sent off from these structures to the uterus.

*The posterior subperitoneal ganglia and plexuses*, which cover the whole posterior surface of the gravid uterus, and are of similar structure and extent as those on the anterior surface.—The nerves are described as equally large, broad, and innumerable.

*The left subperitoneal ganglion and plexuses*.—A structure figured as one inch and three quarters in length, and described as numerous large branches of nerves which extend up the left side of the uterus from the cervix to the fundus.

*The right subperitoneal ganglion and plexuses*.—Structures of similar extent and situation as those on the left side of the organ.

*The left spermatic ganglion*.—Figured as three quarters of an inch in breadth, by an indefinite length, and situated in the vicinity of the principal spermatic artery and vein.

*The right spermatic ganglion*.—That there is a similar structure on the right side “does not admit of doubt.”

##### DR. LEE'S VIEWS.

*The great transverse plexuses*, which extend across the body or the uterus, and are described as a “white, pearly, fasciculated membrane, about one quarter of an inch in breadth.”

*The amount and size of the nerves going to the uterus*.—The amount of nerves which is believed to be supplied to the uterus may be inferred from the previous description of the different ganglia and plexuses. Various terms are used—as, “numerous large nerves,” “large flat nerves,” “layers of broad nerves,” “sheath of nerves,” “innumerable nerves,” “superficial and deep plexuses of nerves,” &c. &c.

These ganglia and plexuses, together with the utero-cervical ganglion, constitute “the great and special nervous system of the uterus,” and “are formed for the purpose of supplying the

naum, extends from thence to the proper muscular tissue of the uterus, in the form of broad, flat, fasciculated bands.

##### MR. BECK'S VIEWS.

The transverse plexuses are a band of fibro-cellular tissue which extends across the body of the uterus. This has only been seen in the gravid uterus.

The nerves which supply the uterus are very small, and measure from the 150th to the 200th of an inch in diameter. They are numerous, from 20 to 30 in number, and come off as distinct branches from the hypogastric plexus.

*The special nervous system*.—No special nervous system for the uterus exists. The nerves do not differ in any respect from those sent to the stomach, intestines, liver, &c.; and, con-

uterus, with that nervous power which it requires during labor."

*The sources of the nerves supplying the uterus.*—The nerves are derived from the hypogastric plexus, and branches from the sacral nerves.

*The enlargement of the nerves during pregnancy.*—As the various subperitoneal ganglia and plexuses do not exist, or but very imperfectly, in the unimpregnated uterus, the enlargement which is supposed to take place must be very great indeed, and equal to that of the other structures. This enlargement has been considered by John Hunter to be "probably fifty times." Also, the nerves "return after parturition, to their original condition before conception takes place."

Opposed to these views of Dr. Robert Lee, we have the opinions of all the previous authors who have directed their attention to this subject. Walter, in 1783, figured the nerves of the uterus and described them as very fine, and going to the neck of the organ and os uteri. Haller, in 1763, gives a very similar description to that by Walter. Dr. William Hunter, in 1794, to whom the previous descriptions were unsatisfactory, carefully dissected a female subject for the purpose of describing the nerves. He describes them as the continuation of the hypogastric plexus, and says—"They spread out in branches, like the portio dura of the seventh pair." No mention is made of large nerves or ganglia. John Hunter, about the same time, also speaks of the uterine nerves being small. Tiedemann, in 1822, figures the nerves, and describes them as fine, soft, and slightly red.\* Lobstein, in 1823, says that branches of nerves are very rarely seen to enter the substance of the uterus, either in the unimpregnated or in the gravid state, and mentions that he could not find any nerve in the uterus of a woman who died twelve hours after parturition, although he carefully looked for them. In subsequent examinations, however, he was more successful. Oslander, in 1829, says, (I quote from Dr. Lee's folio, "On the Anatomy of the Nerves of the Uterus.") Although it is very probable that the uterus possesses nerves, still, hitherto, they have been very unsatisfactorily demonstrated, either as regards their number or their nature. I myself, like others, deceived by the authority of more scientific persons, formerly stated that nerves were spread over the whole of the human uterus, since I believed that more skillful anatomists than myself had really seen them; for example, Walter, who speaks so confidently of nerves which accompany the larger arteries. But I know now that they have not been seen by others any more than by myself; and I can only assume that the uterus as an irritable organ, must possess nerves. But I have not seen, and it certainly does not possess, any nerves that are easily demonstrable by the scalpel, and still less any large branches."

It would be easy to add many more authorities, all expressing the same opinions, but these appear sufficient to show the univer-

sally, there is no evidence to show that the uterus receives any supply of nerves which can be supposed to especially influence or preside over gestation.

The uterus is supplied from the hypogastric plexus, which plexus is a continuation from the superior aortic plexus, and consists of gelatinous nervous fibres, partially derived from the ganglia in the aortic plexus, and tubular nervous fibres, derived from the lumbar spinal nerves. The branches from the sacral nerves are not supplied to the uterus, but are distributed to the bladder, vagina, perineum, and some to the lower part of the rectum.

The nerves of the gravid uterus are of the same size as those of the unimpregnated uterus, and, consequently, either no increase has taken place during pregnancy, or no decrease has occurred after parturition.

The nerves of the virgin uterus are of the same size as those of the gravid uterus, and, consequently, they do not enlarge during pregnancy, nor do they undergo any change after parturition.

sal belief which prevails upon the subject. And when we consider that the authors already quoted, rank amongst the most celebrated anatomists and the most accurate observers, we cannot avoid asking the question, have they overlooked these structures described by Dr. Lee? or have they seen them, and not believed them to be nerves? Had it been one or two small branches of nerves, or one or two small ganglia, we might have considered they had been overlooked, and were now brought to light by our improved methods of dissecting. But it exceeds the possibility of belief, to suppose that John Hunter, William Hunter, Tiedemann, Lobstein, and Oslander, should have carefully dissected the gravid uterus, and not discovered structures which cover the whole anterior and posterior surface of the uterus; which pass up the sides of the organ as large broad nerves, and which form large ganglia, more than two lines in thickness. We are, then, forced to the conclusion, that they must have seen these structures, but did not consider them nerves. Dr. Lee describes them as "presenting the appearance of a layer of dense structure, composed of fibres strongly interlaced together, and having a yellowish-brown color;" "as a dense, reddish-brown colored mass, consisting of fibres firmly interlaced together," as "thick and solid, and consisting of a yellowish-brown substance." And, I would ask, what anatomists of the present day will have the hardihood to affirm, that tissues having these characters are nervous structures! But we might still have been left in uncertainty and doubt, had not Lobstein especially pointed out those structures, and cautioned anatomists from falling into the error of supposing them to be nerves. After mentioning the examination of two gravid uteri which he performed, he observes, (Additamenta, p. 169,) "On this occasion, I am led to observe, that when the external tunic of the uterus is taken away, there occurs many fibres which decussate in various ways with themselves, and are united by loose cellular tissue, both with each other, and with the denser and deeper substance of the uterus. These fibres, of whose growth I am ignorant, may be readily taken for the continuation of nervous branches, yet they differ from them, not only in their direction and greater thickness, but also by the greater flatness of their figure. Wheresoever the nerves of the uterus are finally distributed, it appears certain to me, that they do not interlace with each other in the substance of the uterus."

In making these remarks, I have endeavoured to place the question upon the "common sense" view, and to give the opinions of authors who wrote prior to the publication of Dr. Lee's papers. But I may now add, the improvements which have taken place in microscopes and in microscopical anatomy, since the time that Lobstein wrote, enable us to determine, that the layer of fibres, of the nature of which he was ignorant, are, in fact, a layer of organic muscular fibres. I am aware, that in consequence of hasty and imperfect observations, some difference of opinion has existed between microscopical observers upon this subject. But I am also aware, that the difference has not been nearly so great as some have endeavored to make it; for words and opinions have been attributed to gentlemen who neither spoke the one nor entertained the other.

The next question at issue is the condition of the nerves during pregnancy. Upon this subject John Hunter remarks, "The uterus, in the time of pregnancy, increases in substance and size, probably fifty times beyond what it naturally is; and this increase is made up of living animal matter, which is capable of action within itself. I think we may suppose its action more than double; for the action of every individual part of this viscus, at this period, is much increased, even beyond its increase of size, and yet we find that the nerves of this part are not in the smallest degree increased. This shows that the nerves and the brain have nothing to do with the actions of the part, while the vessels, whose uses are evident, increase in proportion to the increased size; if the same had taken place with the nerves, we should have reasoned from analogy." Dr. William Hunter observes, "I cannot take upon me to say what change happens to the system of uterine nerves from utero-gestation, but I suspect them to be enlarged in some proportion, as the vessels are. Whilst Tiedemann states that the nerves increase both in number and magnitude during pregnancy. Although Tiedemann mentions this enlargement, yet he is far from believing that they undergo the enormous increase which Dr. Lee mentions, or that a "great and special nervous system" springs up in the gravid uterus, and is "formed for the purpose of supplying the uterus with that nervous power

\* Dr. Robert Lee remarks—"From Professor Tiedemann's work it might justly be inferred, that the human gravid uterus is more sparingly supplied with nerves than any other organ in the body." Dr. Lee has also quoted all the authorities in the first part of his folio brochure, with the apparent intention, of showing how much they differ from his own views.

which is required during labour." In these opinions, Dr. Lee stands alone: and when we remember that his views and opinions have been formed whilst tracing the gradual development of a layer of muscular fibres, which, as it were, springs into existence as the uterus increases in size, we have a ready explanation of the singular errors into which he has fallen. Had Dr. Lee but paid attention to Lobstein's caution he would have saved much time and much unpleasantness.

In addition to these structures upon the body of the uterus, large ganglia have been described as situated at the neck of the uterus, and on the vagina.

#### DR. LEE'S VIEWS.

*The utero-cervical ganglia.* At this junction of the hypogastric plexus with the branches from the sacral nerves, is situated a large ganglion; "it appears to consist of six or seven smaller ganglia, which are united together by nervous cords." "It is nearly two inches in breadth, exceeds in size the semilunar ganglia of the great sympathetic, and constitutes only a small portion of the nervous system of the human uterus." This ganglion is considered "as the centre of nervous supply to the uterus." (*The Lancet*, p. 457.) It enlarges during pregnancy, and returns after parturition to the original condition in which it was before conception takes place.

*The vesical ganglia*, called "the external middle, and internal ganglia." "Several large, flat ganglia are situated about midway between the os uteri and ostium vaginae." "From this great web of ganglia and nerves on the sides of the vagina, by which it is completely covered, numerous branches are sent to the sides of the bladder." The nerves to the vagina are described as "many large, broad nerves."

The plexus on the side of the vagina has been known since the time of Walter, who figured it in 1783. Tiedemann, in 1822, has also given a representation of it, and calls it a "plexus gangliosis;" whilst Dr. Lee differs from these authors in the very large size which he gives to this "nervous ganglionic plexus," or "utero-cervical ganglion," and in the very large size of the nerves which pass from it.

In this instance, as in the preceding one, we are asked to believe that the distinguished anatomists, whose names I have already quoted, could carefully dissect these parts, and yet fail to discover a structure "nearly two inches in breadth, and which exceeds in size the semilunar ganglia of the great sympathetic." Had they committed so great a piece of inattention, we might, with great reason, have questioned the accuracy of the whole of their works. But it fortunately happens that the error lies with Dr. Robert Lee, who mistook a mass of fibro-cellular tissue, inclosing in its centre some small ganglia, for a true ganglion, consisting of "cinentions and white matter, like other ganglia." Whilst Dr. Lee has applied the term, "nervous ganglia and plexuses" to muscular tissue on the body of the uterus, he has descended lower down, and called a mass of fibro-cellular tissue a "nervous ganglion," and, descended still farther, he has described the fibro-cellular tissues on the side of the vagina as "large flat ganglia." Much confusion has thus arisen from the profuse mode of describing all tissues as nervous; but the real error lies in Dr. Lee not distinguishing one tissue from another.—*Lancet*, October 27, 1846.

#### MR. DECK'S VIEWS.

At the junction of the hypogastric plexus and branches from the sacral nerves, several small ganglia exist. The largest measure about the one-eighth of an inch in diameter. These ganglia, together with the plexus in which they are found, are surrounded with a thick layer of fibro-cellular tissue. This tissue is of considerable firmness, in consequence of the nerves and ganglia being in this situation, much exposed to injury. None of the nerves from these ganglia are sent to the uterus, nor does it undergo any increase in size in pregnancy, nor any change after parturition.

From the plexus formed by the junction of the hypogastric plexus and branches from the sacral nerves, branches pass off to the bladder, vagina, and rectum. Those to the bladder and vagina are about the one-sixtieth of an inch in diameter, those to the rectum being much smaller. Several minute ganglia are formed on these nerves.

## BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Meeting at Southampton, September, 1846.

### SECTION OF PHYSIOLOGY.—President: PROFESSOR OWEN.

*Thursday, Sept. 10th.*—Dr. Fowler read a paper "On the Relations of Sensation to the higher Mental Processes."—The author observed that *man*, when viewed as a whole, should be considered as consisting of a body constituting the instrument of the mind, as the telescope is of the eye *adjustable* but not *adjusted*; that its indications are perceived through the medium of the *muscular sense*, as the images reflected or refracted are the signs of external objects to the eye. Animals have adjustments ready made; man has to learn his. To see, to hear, and to touch, as an artist, or even in the common usages of life, a man just couched is as an infant; till he can adjust he sees, as we do with an unadjusted telescope, merely a vague sight. This gives rise to *search*. To see with intelligence we must *look*, that is, exert the combined adjustments: this constitutes an appreciable distinction between *sensation* and *perception*. The unadjusted impressions pass the mind as vague trains of thought, linked and associated sequences, the machinery of reveries and dreams. That searching to obtain well defined perceptions is effected by adjustments, attention to our own *working observation* will afford abundant proof; but a more protracted attention is necessary to prove, and to convince a man, that his *memory* and *powers of conception* equally depend on the mind's perception of a *reiteration of the adjustments of sensation*. But that this is so we have proof, in the *corporeal actions* induced by conception being like those produced by sensation by presence of the objects. This conception of savoury food excites secretion in the salivary glands—of an insult, the gesture of anger, &c. In the power of forming and giving fixity of tenure to conceptions men differ widely. It is to this power Dr. Johns alludes, when he says, that whatever can make the past, the distant, and the future, prevail over the present, raises us in the scale of thinking beings. Now, Dr. Darwin and Dr. Brewster have shown that these conceptions are effected by adjustments of the body; in other words, that the "mind's eye," is, in fact, the body's eye. To have vivid conceptions disposable by our volition forms the orator, the poet, the sculptor, and the painter.

After numerous illustrations of this faculty and allusions to it by the poets, the author stated that these sensations, perceptions and conceptions do not exist in an insulated state; the adjustments by which they are affected are so linked and associated by retransmissions that they reciprocally call up each other. This *linked association of adjustments* he took to be the machinery by which the *association of our ideas* is effected, and that the *propensity of our structure to these functional adjustments* constituted all we had of *ideas* which had been denominated *innate*; and he considered that this reciprocating perception from different sources of sensation (as the eye and ear,) gave birth to the ideal theory of "species, images of forms and colour of things without their matter" of the old metaphysicians. In conclusion, the author contended that Mr. Hume's opinion on the non-existence of the idea of power, and of cause and effect, (except as antecedent and consequent,) and the arguments and facts adduced against that opinion, receive an elucidation from the consideration of the modes of action of the muscular sense, of which both Mr. Hume and his adversary were quite ignorant.

The Secretary read a paper by Dr. Searle, "On the Cause of the Blood's Circulation through the Liver." After alluding to the powers which circulate the blood in the system generally, the author declared it to be still a problem by what combined forces the portal circulation was carried on in the liver,—one cause of the general circulation being apparently absent, namely, the oxygenation of the blood in the arterial system, in the portal system the blood being deemed wholly venous. The solution of the problem depended, he thought, on the fact that the stomach and bowels were (like the cutaneous,) a respiratory surface, by which the portal blood becomes oxygenated to the necessary degree. In support of this view he adduced the experiments of Majendie, who found 11 per cent. of oxygen in the stomach of criminals examined after decapitation, and carbonic acid and nitrogen in the intestines; the source of this oxygen he believes to be the air swallowed with the food and saliva, and in combination with cold water. This oxygen he believes to be absorbed by the veins and lacteals, and communicated as a source of power to the portal vessels. He deemed the absorbing power of the gastric and mesenteric veins

to be increased by the diminution of the quantity of blood in the vessels by the secretion of bile. In conclusion, he thought the ruminant animals required an additional supply of oxygen to maintain the respiratory function over their large gastro-intestinal surface, and that this was supplied from their peculiar function of rumination.

Dr. Carpenter read a paper "On the Physiology of the Encephalon." The object of this communication was to bring under consideration the inferences to which we are led by the study of comparative anatomy, in regard to the functions of different parts of the human encephalon. He first pointed out that our comparisons need not be restricted to vertebrate animals, since the ganglionic centres of invertebrata may be shown to be analogous with certain portions of the cerebro-spinal system of the vertebrata. He stated it to be a universal fact, that all organs of special sense have distinct ganglionic centres, which must be regarded as the instruments of their respective sensations and as the sources of motions directly connected with those sensations; and that the whole cephalic mass of invertebrate animals was composed of a collection of such ganglia, without any vestige (except in the highest,) of cerebrum or cerebellum. These organs make their first appearance in fishes, and bear at first but a small proportion to the chain of sensory ganglia, which forms the anterior termination of the spinal cord. In fishes we find distinct olfactory, optic and auditory nervous ganglia, together with thalami optici and corpora striata, the degree of development of which has no reference to that of the cerebrum; in fact, the bodies usually called the cerebral lobes of fishes are (except in the sharks, &c., which have the vestige of cerebral hemispheres,) entirely composed of the analogues of the corpora striata. Hence Dr. Carpenter considered that these bodies, instead of being appendages to the cerebrum, really belong to the group of sensorial ganglia, and are to be regarded as altogether making up the ganglionic centres of common or tactile sensation, and of the movements prompted or directed by it. This chain of ganglia, although comparatively small in man, with reference to the bulk of the cerebral hemisphere, still exists in him, and must be regarded as the instrument of the same operations as those to which it ministers in the lower animals. Arguing from actions in the latter, and analogous phenomena in man in health and in disease, the author attributes to the sensory ganglia the formation of sensations, and the origination of respondent movements, which may be distinguished as *consensual*. To this category the purely instinctive actions of the lower animals, which seem executed without any *idea* of purpose and in simple responsiveness to the promptings of sensation, appear referrible, together with a variety of actions in man, such as that of yawning from the sight or sound of the act in another. Dr. Carpenter hence endeavoured to show that we must regard the cerebrum as the instrument of the formation of ideas, of the memory of ideas and sensations, and of the intellectual processes founded upon them which terminate in an act of the will; and he pointed out that *ideas* may produce the same effect on muscular movement as sensations themselves, as when the suggestion of the idea of yawning induces the action. He also showed how the anatomical connections of the cerebrum with the sensory ganglia would cause its communicating fibres to exert an influence on the latter, corresponding with that which is effected by the sensations directly received from the organs of sense. With respect to the *emotions*, he endeavoured to show that they may be regarded as compound states resulting from the simple feelings of pleasure and pain associated with certain ideas, or classes of ideas. The feelings of pleasure or pain he would locate with the sensations which commonly excite them, in the sensorial ganglia; whilst the formation of the ideas, which are essential parts of the emotions and propensities, is clearly a cerebral operation; and he showed, in conclusion, how this view of the functions of the principal parts of the encephalon harmonizes with the known duplex action of the emotions,—first, in producing involuntary movements; and second, in stimulating and influencing the reasoning processes.

A lengthened discussion followed, in which Dr Laycock denied that we had yet a sufficient number of facts ascertained either to deny the higher mental processes and emotions to the lower animals, or to induce consent to the physiological distinctions drawn by Dr. Carpenter from the anatomical structures in man and mammalia. He defended his dissent by facts in natural history, and physiological and anatomical views relative to the encephalon published by himself, two years ago, in papers read before the Association.

*Tuesday, Sept. 15th*—Professor Matteucci submitted a *résumé* of his latest researches in Electro-Physiology. In the first place he described the experiments which prove that the development of electricity in living animals is a phenomenon peculiar to all organic tissues, and principally to muscular fibres, and that it is a necessary consequence of the chemical processes of nutrition. Professor Matteucci particularly wished to prove that the development of electricity in the muscles can never produce electric currents which circulate either in the muscular *mass*, or in the nerves. It is only by a particular arrangement of the experiment that we succeed in obtaining a muscular current. Further, all experiments contradict the opinion of an electrical current existing in the nerves. M. Matteucci proved that the current said to be proper to the frog is, on the contrary, a general phenomenon which exists in all the muscles that have tendinous extremities unequally distributed, and that this current supposed to be peculiar to the frog, is only a particular instance of muscular current.

In the second place, the Professor laid before the Section his last researches "On Electrical Fishes." He showed that the laws of the electrical shock of these animals are a necessary consequence of the development of electricity which is produced in each cell of the electrical organ under the influence of the nervous power.

In the third place, professor Matteucci showed the relation which exists between the electrical current and nervous power. He proved that muscular contraction is always produced by a phenomenon analogous to the electrical spark, and that the electrical current does but modify the nervous excitability. On these facts Professor Matteucci establishes a simple theory of electro-physiological phenomena.

In the last part of his communication, the Professor treated of Inducted Contraction; and, after having demonstrated that these phenomena cannot be explained in supposing an electrical discharge of any kind indiscriminately, he concluded, that inducted contraction in an elementary phenomenon of the nervous powers which acts in muscular contraction, and is analogous to all actions of induction of physical powers.—*Provincial Medical and Surgical Journal*.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### EPIDEMY OF MUSCULAR CONTRACTIONS IN BELGIUM.

*Translated for the St. Louis Medical and Surgical Journal from the Gazette Medicale de Paris.*

There prevails at this time, in Belgium, principally in the prisons, a singular malady, worthy of attention. The disease commences with a sensation of numbness and pricking, and sometimes with shooting pains in the hands and feet. Generally, this sensation extends along the leg and thigh, fore-arm and arm. In some patients, it extends also to the parietes of the abdomen and chest, to the face and over the scalp. In this last case, the patient experiences vertigo and extreme debility. The sense of touch is frequently modified in such a manner, that the act of feeling and walking gives rise to all kinds of sensations, more or less strange. A prisoner of St Bernard, weaver by trade, believed he held in his hands his shuttle, that he had laid aside. Another thought that he walked on stones or nails. With a few, sensibility was entirely destroyed.

To these symptoms invariably succeed—and this is the dominant character of the disease—a muscular contraction of the limbs, presenting two distinct varieties, to wit:—simple contraction, and spasmodic contraction. The first, consisting in a simple morbid contraction of the muscular fibres, commences generally in the superior extremities, and only extends gradually to the inferior. At other times, all limbs are affected simultaneously. In every case, the fingers are flexed on the hand, the hand on the fore-arm, the fore-arm on the arm, the whole number occupying an intermediate position between supination and pronation. Similar phenomena are observed in the inferior extremities. The toes are bent, the foot extended, the leg flexed upon the thigh, and the thigh upon the pelvis. In the angles,



formed by the various positions of the skeleton, in the palm of the hand, wrist, elbow, sole of the foot, above the heel, in the hams and groins, are felt muscular, or tendinous cords, elevated and stretched. The rigidity is apparent, especially at the wrist, in the tendons of the *palmaris longus*, and *pulmaris brevis* muscles, the *flexor profundus*, and *flexor sublimis*, and the *cubitalis anterior*; at the elbow, in the insertion of the *brachialis anticus*, and at the biceps; above the heel, in the tendon of *Achilles*, in the popliteal region, in the tendons of the *semi-tendinosus* and *semi-membranosus*, and of the biceps; at the groin, in the insertion of the *gracilis*, of the *rectus*, and of the *aponeurotic tensor*. All of these muscles offer a manifest resistance to attempts at straightening them. The elevation and rigidity of the tendons upon the dorsal face of the radi-carpal articulation, and upon the instep, caused M. Tasquinet, the author of one of the reports, to suppose that the extensor of the fingers and toes participated in the state of contraction.

The limbs, thus flexed, offer to the touch a general and deep-seated hardness, which appears to invade, in different degrees, the whole of the muscular mass, being more distinct upon the fore-arm than elsewhere.

Sometimes the contraction is neither preceded nor attended with pain; nor do the efforts of extension occasion any. With some patients, this forced distention of the contracted muscles produces even an agreeable sensation. At other times, this contraction announces itself at once, by violent cramps extending from the elbow to the extremities of the fingers, and from the knees to the toes; and, if the attempt is made to bring the members to their normal position, the most violent pain results.

The contraction of the limbs is, as we have just said, permanent; but it does not always limit itself to these parts. There are cases where the thoracic and abdominal muscles, those of the neck and of the face, become hard and stretched. A considerable oppression, and a sense of contraction at the base of the thorax, have at times led to the belief of a contraction of the diaphragm. With certain patients, the tongue, next after the limbs, receives the stroke. With others, finally, a general tetanic state has been observed.

To judge from all of the reports, the contraction is generally fixed and permanent. It persists during many days, many weeks, many months, and then gradually subsides. But sometimes, it assumes a remittent, or an intermittent, form. Thus, it is seen to diminish, at times in the morning, then in the evening; or, truly, only to make its appearance by attacks, very manifest, distinctly marked, lasting from a few moments to several hours, and even for a greater part of the day. Ordinarily, these attacks supervene at night and towards morning, lasting till near noon, and disappearing for the rest of the day. M. Mareska observed two cases of true periodic contraction treated with success, with the sulphate of quinine.

As we said above, the contraction assumed, sometimes, a spasmodic form. Then, instead of a permanent flexion of the limbs, a hardness and permanent tension of the muscles, there are violent convulsive contractions, transient, with or without pain, and returning by attacks at greater or less intervals, or simple starting, such as sometimes takes place in disturbed sleep. This form, noted by M. Tasquinet, is encountered only with a few patients.

The symptoms, just specified, are invariable: they form the particular character of the epidemic, and constitute, thus to speak, its individuality. But there are others, although accessory, which cannot, nevertheless, be abstracted from the picture without a serious alteration of its physiological expression. Thus, some patients are affected with general or partial œdema, and ascites; others complain of *rachialgia*. With many, cyanosis of the extremities has been observed. With two, only, spontaneous gangrene:

one of these two patients lost the skin of the scrotum, and the other almost the whole of that of the left foot and leg.

As to the general state of the patient, apart from considerable weakness, there is nothing particular. The pulse and temperature remain in their natural state, and the principal functions are regularly performed. Still, this is not always the case: with certain subjects, the temperature is lowered, and the pulse sinks to fifty, and even forty pulsations; with others, on the contrary, either by the direct effect of the disease, or under the influence of the pain, or from some visceral complication, fever is established. The patients often complain of an intense headache. With others, finally, there is a loss of appetite, nausea, vomiting, colic, constipation or diarrhœa, either serous or sanguineous. M. Mareska has determined that the fibrine of the blood was not augmented. A member of the Academy, M. Craninx, has even affirmed, in the discussion which followed the communication of M. Vleming, that the blood lost its fibrine; but it does not appear that chemical experiments support this assertion.

The disease presents in general, thus far, nothing serious. It almost always ends in cure, and relapses are rare. Yet there are many instances of fatal termination. In some cases, death supervened suddenly, under the forcible contraction, doubtless, of the respiratory muscles, and perhaps also, according to the judicious remarks of M. Torquinet, from a contraction of the heart; in others, death came on slowly, after some days of fever; and there is room to suppose notwithstanding the insufficiency of the reports on this point, that it was the result of consecutive organic alterations. With some patients, the affected limbs remain paralyzed.

Few autopsies have been made. The only indication that we find on this subject, in the documents we can consult, is yet another assertion of M. Craninx before the Academy:—"The liver and spleen have been found diseased: all the viscera of the economy were more or less altered." But the greater part of the other members do not appear to attach the least importance to these post-mortem examinations.

It is the same with the therapeutical results. M. Staquez, practising at the prison of St Bernard, where typhoid fever is endemic, and meeting in the new affection only a peculiar manifestation of the habitual morbid constitution, has had recourse to saline purgatives. M. Mareska, practising at Gand, and free from this pre-conception, has employed cold baths, ligature of the limbs, amica, camphor, opium, sulphate of quinine, and had recourse to purgatives but as secondary means. But it cannot be said, if one is to judge from the debates on this subject, before the Belgian Academy, that any method of treatment has had any marked influence upon the duration or termination of the disease.

To complete our sketch, it only remains to point out certain differences, according to the locality. It is at the prison of St Bernard, thus far, that it has been most serious. It is there that it is sometimes accompanied with fever; that the contraction exists for weeks and months; that it is complicated with cyanosis, or gangrene of the extremities; that it terminates often in death. In the prison of Gand and Namur, the affection, although more painful, takes the intermittent form, rarely lasting more than eight days, and never ending fatally. "This difference, does it not depend," said M. Vleming, to the Academy, "upon the fact that the original cause of the disease, whatever it may be, has found in this prison a more ready prey, a ground better disposed, men more deteriorated, upon whose constitutions the whole of the causes which there reign, and which render the prison the most detestable of the country, had already made deep inroads?" Some cases have been observed at the Hospital St Pierre, at Bruxelles, and in the city by M. Seutin; in the lunatic asylum at Gand, and even at St Bernard, without the prison, by different practitioners. In all these cases, the contraction took the permanent form.

A profound obscurity still envelopes the causes and nature of this epidemic malady. A discussion is in progress at the Academy of Medicine and the Society of Medicine, at Gand. The Academy has even decided that this question shall have the priority in the order of the day, at the approaching session. From this period, new studies will be undertaken, and new facts gathered. We will await this additional knowledge; and, in making known, in time and place, the result, we shall seek to establish the resemblances and differences existing between the present epidemic affection, and certain affections, equally epidemic, which bear the greatest analogy to it; such as acrodynia, raphania, pedionalgia, &c.

#### CASE OF ABSENCE OF THE SPLEEN.

By ROBERT LEBBY, M. D., Surgeon U. S. Engineer Service, Charleston Harbor.

*Bodies without Spleen.*—Dr. Meinhard, of Petersburg, says a German paper, has made a *post mortem* examination of a woman, in whom the spleen and splenic vessels were totally missing. Since reading the above, in *la Gazette Medicale de Paris*, we found a similar observation, by Dr. Lebbey, in the *Southern Journal of Medicine and Pharmacy*.—Eds.—*St. Louis Medical and Surgical Journal*.

In August, 1834, Jack, the slave of Mr. ——— White, a runaway, committed murder upon the body of one of his comrades, who was likewise a runaway. Not long after the fatal act, one of the party surrendered himself to his owner, and communicated the fact of the case. Jack, likewise, went in to his owner. The owner of the murdered man gave the information of the murder, and the unfortunate murderer was arrested, arraigned before a magistrate's court, tried, found guilty of the murder, and sentenced to be executed, and his body to be delivered to any surgeon who would demand it. At the request of two young gentlemen, who were prosecuting the study of medicine, I applied for the body, after the sentence of the law had been carried into effect, and obtained it. Before detailing the *post mortem* examination, I will give a brief outline of the history of this unfortunate criminal, as obtained from those who knew him best; and, without making any comments, or offering any opinion upon the peculiar development, leave others to draw such inferences as they deem proper.

Jack was about five feet eight inches high, full chest, narrow hips, and at the time of his trial of a very spare make, rather emaciated in his appearance, but enjoying good health. He had lost nearly all of the molar, and a few of his front teeth. He had, in life, suffered from bilious intermittent and remittent fevers, which negroes generally do, in this climate, during the summer and fall months, and pleuritis in winter. He was of a surly, irritable disposition, and frequently would take the woods when his work pressed hard. It was during one of these wandering jaunts, that he committed the melancholy deed, for which he atoned with his life.

*Autopsy one hour after death.*—General appearance of the body, emaciated and thin. An incision was made from the chin to the pubis, turning the flaps back, and exposing the neck, thoracic, and abdominal viscera. The neck was carefully examined, and found not to be dislocated. The ligaments and vessels very much contused, and the larynx, above the prominence, or pomum adami, particularly so; as the cord compressed this part of it very much, in consequence of the knot of the rope slipping around, on the back of the neck, as he dropped. The lungs presented a healthy hue except the left, which was turgid, and the pleura costalis of this side adhering to the walls of the ribs. The heart was normal; the pericardium containing about a half gill of fluid. The stomach empty, and the lower third slightly inflamed, with the pylorus thickened. The liver, on its right lobe, healthy in appearance; the left enlarged, and studded with small white specks, not unlike tubercles sometimes seen on the lungs. The gall-bladder empty. The vessels of the omentum enlarged and injected; the pancreas increased fully one-third of its usual size, and of a pinkish color. The spleen wanting. Contiguous to the pancreas, was a sac, of the size of a large orange, oblong in form, of a dark ash color, shrivelled in appearance, and imparting to the hand the sensation of squeezing a decayed orange: upon opening this sac, it was found to contain pus of a creamy hue and consistency. The

ducts were entirely obliterated, and the internal coat of the stomach presented the same appearance of a common abscess. The duodenum was slightly inflamed, on its external and internal mucous surface, but not to much extent. The peritoneum and intestinal canal presented nothing remarkable. The kidneys were normal: the bladder empty, and healthy in cast. The hemorrhoidal vessels enlarged, and the remains of two tumors or piles prominent.

The weather, at the time, being extremely hot, our examination was, consequently, interrupted; and, although many parts of the viscera were selected as specimens, they were lost before they could be put in spirits.

I have thus, Messrs. Editors, given you the result of this extraordinary autopsy. It affords ample scope for the physicians to speculate, and, particularly, that class who have supposed that the spleen was a useless appendage to the animal system. I have no favorite theory to support, and, consequently, have given to your readers a correct transcript of the examination of the body of this unfortunate individual, who satisfied with his life then the requisition of civil and Divine justice, that "whoso sheddeth man's blood, by man shall his blood be shed;" and, to the medical world, the strange phenomenon of a man having lived without a spleen.—*Southern Journal of Medicine and Pharmacy*.

#### ELEPHANTIASIS, ITS HISTORY AND TREATMENT

By HENRY G. DALTON, Esq., M.R.C.S. Eng., Georgetown, Demerara.

Where elephantiasis has advanced to any great extent, there is generally noticed considerable enlargement of the glands in the groin; but these rarely advance to suppuration. Abscesses, however, are apt to form in such swollen limbs, and give rise to much suffering. Although the skin becomes greatly hardened in the progress of the disease, yet if the patient scratch the leg, (what he is apt to do from a sensation of itching or tingling,) an ichorous, foetid, serous-looking fluid is discharged, and sometimes very copiously. Even where no abrasion or cracking of the skin takes place, an exudation of such fluid frequently occurs. If "rose," as it is termed, be identical with elephantiasis Arabica, which can scarcely be doubted, it will be found of frequent occurrence among all classes of persons in the West Indies. Many cases here give rise to it,—exposure to wet, suppressed perspiration, chills, bites of insects, or other local irritation. The part affected becomes swollen, painful, red, and hot, with general febrile disturbance of the system. Such attacks, where they proceed further, in persons subject to the disease, prevent, in many instances, the approach of graver maladies, and often are noted by the patients to lead to an improved state of health, especially when before they had been labouring under dyspepsia, torpor of the system, lassitude, and slow internal fever. It may, perhaps, be questioned, whether the remedies employed for the removal of the "rose" may not have some influence in this change. In some persons, the attack is periodical, and it comes on frequently without any assignable cause. The patient awakes in the morning with a sudden unaccountable swelling, and occasional morbid redness, as of the hand, arm, foot, &c. There is at first, in such cases, more itching than actual pain. This may last for a few days, when the swelling disappears with slight desquamation. Sometimes a glandular swelling follows, or hardness or puffiness marks the seat of the malady. This mild form may be developed in almost any part of the body, as the ear, nose, hand, or scrotum, being modified according to its seat. Where the skin is naturally thin, the swelling comes on quickly, and subsides as soon: when the skin is thicker, it is more chronic, and is difficult to be resorbed. The parts where the greatest swelling is observable, are those where much loose cellular tissue exists, as in the scrotum, groin, arm, &c. When it attacks the scrotum, the swelling obtains sometimes a great size, and proceeding from the incipient stage "rose," with slight oedema and infiltration, to a more advanced form—elephantiasis. This part of the body sometimes weighs sixty pounds. The same changes take place as in the leg, and this organ attains great magnitude. The testicles are rarely dragged down, but remain at the upper and back part of the swelling, and very frequently they are atrophied. The penis is obliterated from the skin, being drawn down, and presents only a slight prominence, if not a navel-like appearance, on the lower and upper part—sexual intercourse being thus prevented. The

urine, when required to be voided, is assisted by lifting up the tumour.

The causes of rose and elephantiasis may be divided into the predisposing and exciting. The first depend on a certain condition of climate, where damp and heat prevail, where intermittent fever is common. A debilitated state of constitution is favourable to the attack. Improper or insufficient food, languid circulation, an impoverished state of the blood, the nervo-lymphatic temperament, a long residence in warm latitudes, absent or deficient transpiration,—all predispose to elephantiasis.

The exciting causes are, local irritation, exposure to damp, febrile attacks, suppressed evacuations, long standing, or continued pressure. Drs. Hillary and Hendy add sudden changes of temperature.

**Treatment.**—The treatment of elephantiasis Arabica has hitherto led to very imperfect results, and has varied according to the view taken of the disease by different practitioners, until, at last, the greater number of patients have fallen into the hands of quacks and ignorant persons; and it is perhaps owing, in a great measure, to the apathy which the medical practitioners in the West Indies have evinced towards its consideration, that the unfortunate sufferers are forced to apply to any system which holds out a prospect of amelioration, if not recovery. It has been made a reproach to the medical profession, that failing to remove a disease by the aid of medicine, they too often resort to the knife, which cuts through many a Gordian knot without lessening it. It is hoped that the sketch of the following plan of treatment will induce others to give it a trial:—

The treatment of elephantiasis Arabica varies according to its primary and advanced stage, and is divided into local and constitutional means. At its commencement, when febrile attacks are common, when little swelling is present, and where no marked or permanent change of the skin is observable, it is necessary to have recourse to mild antiphlogistic remedies, as purgatives, emetics, diaphoretics. Venesection is rarely required; generally speaking, it does harm. Calomel and jalap, or the compound jalap powder, with small doses of tartar emetic, are useful: also, saline draughts, with sudorifics, followed up by the administration of quinine; afterwards, nauseating medicines should be given with bitter infusions and occasional tonics. The diet should be light and nourishing, and when it can be had recourse to, change of climate proves of the greatest benefit. The local treatment should consist in astringent lotions to the part affected, as Goulard water, sulphate of iron washes, spirits of wine and water, &c.; but these should never be applied cold, for they generally increase the pain. For this reason ordinary fomentations are useful. The swollen part should be supported by gentle bandaging, and when the pain is removed, if much swelling persists, increased pressure, with occasional stimulating or astringent frictions, should be had recourse to. Rest and the recumbent position should be enjoined. It is very necessary to watch the condition of the general health, and every means must be taken to improve it, by moderate exercise, bathing, and diet. A rheumatic or aguish diathesis should be guarded against. Where, however, the disease has advanced further; where the swelling is great, and the skin has become rough, hardened, and thickened; in fact, where it has assumed that condition peculiar to the disease, recourse must be had to the following measures:—The patient is to be confined to his room, and in severe cases to his bed, but only for a short time; a strong, firm bandage (made of Osnaburgh, or other strong cloth) should be provided, and careful pressure made from the toes upwards; a few strong purges may be given at first. It is wonderful to observe the remarkable changes soon produced. In severe cases, it is better to soak the leg freely in warm aromatic decoctions, and after careful drying and moderate friction, to apply the bandage tightly. The bowels are to be kept freely open; the state of the skin is to be watched, and diaphoresis should be induced by gentle means, if necessary. It is sometimes found useful to employ diuretics, although frequently the flow of urine is materially increased, inasmuch as the repression of the swelling seems to eliminate the fluid by the kidneys; the diet should be at first low, and afterwards gradually increased. In the course of a few days, under such treatment, the huge, misshapen limb is generally so much reduced as to require the bandage to be readjusted, which must now be done frequently, increasing the pressure each time, even to slight pain. The swelling subsides at first like magic, some inches every week, but, as it lessens, the treatment becomes more tedious, and requires patient, persevering

pressure. The ordinary mode of bandaging in these cases will be of little use; the pressure must be as severe as is consistent with safety. The patient at first bears an extraordinary degree of force without much inconvenience, but complains sometimes of great numbness and pain in the part, which, however, soon wears off; should it not do so, it will be necessary to slacken the bandage. As the swelling diminishes, the patient should use exercise more freely; but evacuations are still necessary, especially purgatives and nauseating medicines, with preparations of iodine, especially the iodide of potassium. Should the health appear to suffer, tonics, and even stimulants, may be required. After a time, the bandage may be used less often; and steeping the limb in fluid, with powerful friction, becomes useful; but the bandage should never be discontinued for more than a few hours, and never during exercise, except it be to accustom the joints to return to their usual freedom. In the course of a month or more, the swelling, under such treatment, will be found considerably reduced; the excrescence and unevenness of the skin become less marked, and at the distance of a few paces scarcely any difference can be recognised between the sound and the previously affected limb. But the bandage is not, on this account, to be laid aside, for, if so, the swelling returns rapidly. It is necessary to continue its application for many months, perhaps always; or a laced-stocking, or some such contrivance, may be used with advantage. In some cases, it may, perhaps, be necessary to establish a small running sore, by means of a blister, or the potassa fusa, or the introduction of a seton may be substituted. It often happens, that patients whose legs have been thus reduced, become thin and debilitated, in which case the general health must be carefully attended to, and tonics or other medicines administered, as the case may require. By such simple means, then, as bandaging and evacuations, this frightful deformity may be so far removed as to insure to the patient much comfort, and physical as well as mental relief; and this circumstance is surely sufficient to urge its employment, where no more permanent recovery can be hoped for. It is not pretended that, by the resolution of the swelling, the disease is completely obliterated; for unfortunately, in most instances where the use of the bandage is not persisted in, a tendency to swelling recurs; but to know that, by such a method, a person so disabled can be so far benefited as to enable him to mix in society, and to follow his customary avocations, without the usual disfigurements of the disease, is surely an object to any medical practitioner.

Where severe ulceration exists with the disease, it will be first necessary to diminish the size of the sore by ordinary means before proceeding with the bandage. Poulitices, in the first instance, with stimulating lotions afterwards, will generally be found sufficient. A lotion of a drachm of nitric acid to a pint of water is of great service applied to the part, with strapping to approximate the edges of the sore, or a weak solution of the chloride of soda or lime may be substituted. It is seldom found that the ulceration resists such treatment, when combined with nourishing diet, occasional opiates, and ammonia internally. Small ulcers, when present, afford no obstacle to the application of the bandage; for with the contraction of the skin, and other tissues, they become obliterated. Dr. Musgrave speaks highly of mercury internally, to act upon the absorbents, and, in some cases, its use may be judiciously employed; but alone it will effect but little improvement. On the whole, as the treatment above advised never fails to insure marked improvement, it is scarcely necessary to suggest the use of mercury, unless under particular circumstances. Bandaging of the scrotum may appear difficult, but, considering the great size to which this organ obtains, it is more manageable than might be supposed. Amputation is scarcely ever required; severe cases of ulceration of the leg, or intolerable pain, may, however, call for its employment. When the swelling has been diminished by the application of the bandage, the disappearance likewise of the warty, rough, and fungous condition of the integument is remarkable.

**Morbid anatomy.**—When a limb affected with elephantiasis is dissected, the following appearances present themselves:—The integument is hard, rough, uneven, with irregular folds and creases; a warty or mouldy condition will be observed in some parts; little or no hair; the skin cracked, scaly, and raised up in some places; constriction observable across joints, bulging out elsewhere; nails, in appearance, like horn; marks of pores in some places, with a moist greasy feel; toes compressed into an almost solid mass. The integument, when cut through, presents

a dense white cartilaginous appearance, to the depth of from half an inch to an inch and a half; hardest towards the surface, and correspondingly softer towards the centre. A soft adipose-looking tissue is next observed, distinct from the other, but having an appearance of gradual transition. Loose pale fat incision is carried deeper, when loose cellular tissue is met with, infiltrated with a serous-looking fluid, which rapidly coagulates, and becomes like jelly, at a heat of 84° Fahr. This exists in enormous quantities, and requires to be removed, in order to proceed with the dissection. The muscles are found pale-looking, and rather atrophied, in some cases considerably so, and with much fat and cellular tissue around them. The veins, except the larger ones, are diminished in size, and appear less numerous, the superficial ones being almost obliterated. The arteries are small, compared with what might be expected from the abnormal hypertrophy of the parts they supply. The nerves are somewhat flattened by compression. The outer skin is not at all mobile; it seems glued to the part; the thickness becomes less marked towards the borders of the foot. When a portion of the skin is removed, and sliced horizontally, it seems to be composed of layers, and has the appearance of sheets of pasteboard, soaked and firmly compressed together. The epidermis is less affected than the cutis vera, which has the physical characters of marked hypertrophy, although the epithelia of the former are greatly enlarged, and present an appearance not unlike the scales of a fish.—*Lancet* November 7, 1846.

#### ABSCCESS OF THE LIVER, POINTING BETWEEN THE SIXTH AND SEVENTH RIBS.

Reported by W. SMITH, Esq., Surgeon,

*Fellow of the Royal Medical and Chirurgical Society of London, and Consulting surgeon-accoucheur to the Bristol Dispensary.*

Anne B——, aged forty-one, married, was admitted to the Bristol Dispensary, September 1st, 1846, and became a patient under the care of T. Martin, Esq., surgeon to that institution, from whom the history of the case has been obtained.

**Symptoms on admission.**—A dull continued pain, increased by deep inspiration, on the right side. It extended from the hypochondriac region upwards to the fifth or sixth rib, and from the sternum backwards to the costal angles. There was edematous swelling, without defined margin, over the same extent, with tenderness on pressure, greatest between the sixth and eighth ribs, about one inch and a half external to the sternum. The whole of the right side of the thorax exhibited some dulness on percussion, which was peculiarly evident at the lower part. There was diminished respiratory murmur, bronchial respiration on the affected side, and slightly puerile respiration on the opposite one. The heart's sounds were distinctly heard on the right side of the chest. The tongue is pale and flabby, coated at the back part. The pulse 80, small, weak, and irritable; countenance is muddy, and rather expressive of anxiety, with a heavy expression of the eye: coldness and slight œdema of the extremities; bowels very irregular; motions clay-coloured; urine high-coloured and scanty; no abdominal tenderness; short dry cough, and some dyspnoea. Her general position is semi-recumbent, but she is able to lie down in any way except on the right side. There are thirst, loss of appetite, and absence of sleep, with anæmia and emaciation.

**Previous history.**—She stated, (so far as Mr. Martin could collect, for she manifested much mental hebetude,) that about four months since she first felt the pain, which had since gradually increased, her health, previously good, failing in the same proportion. Shortly after this date, she applied at St. Peter's Hospital, and was there blistered, and, by her description, also slightly pyralized: but from this and subsequent treatment she received little benefit. She had been dismissed, on refusing to enter the house, about three weeks before Mr. Martin saw her. Since that period the swelling had made its appearance.

**Treatment.**—Ordered, mercury with chalk, and castor oil; followed by soda gentian.

Sept. 3rd.—Bowels freely acted on by the oil, but motions still clay-coloured; pulse very small, 90; the other symptoms unaltered. Ordered, ten leeches; a mixture of carbonate of ammonia, rhubarb, and gentian; and five grains of Plummer's pill night and morning.

5th.—Felt better; pain rather less since the leeches; urine healthier, and in larger quantity; tongue cleaner; pulse 80, rather more full. The local symptoms otherwise unaltered. Treatment to be continued, with the addition of a blister on the 7th inst.

9th.—Œdema has subsided, leaving a more circumscribed swelling, extending over the sixth, seventh, and eighth ribs, and about the size of the palm of the hand; at the lower margin of this swelling, indistinct fluctuation could be felt. The other symptoms were much as before, with the exception of slight tenderness on pressure over the region of the liver, which had not been the case previously. The secretions were improved. Mr. Martin found, on very close questioning as to any injury, that shortly before she became ill, between five and six months since, she had received a kick on the back part of the right hypochondrium. Ordered quinine daily, and a pill of extract of henbane at bedtime.

10th.—Feels rather better; sleep improved. From this time to the 13th, Mr. Martin saw her daily, and she seemed slowly improving in all respects but the pain, which remained the same.

On Sunday, 13th, at five P.M., Mr. Martin was suddenly called to her, as she had been seized in the night with pain in the bowels, which had been getting worse ever since. He found her with a pale and extremely anxious countenance; pulse 110, scarcely perceptible; extremities cold; pain increased on pressure, especially in the left hypogastric region; surface cold and clammy; bowels not acted on for twenty-four hours, and no urine had passed for the same time, although the bladder was not distended. Administered half an ounce of brandy with some hot water at once, and ordered warmth and friction to the extremities. A dose of castor oil to be given, and aromatic spirit of ammonia every hour.

14th.—Ten A.M.: Felt somewhat better: pain less; bowels acted on; less tendency to collapse. Continue treatment.—Eight P.M.: Found her again changed. She was rapidly sinking, and died in the night.

**Post mortem, twelve hours after death, by Mr. Martin and myself.**—The body is sallow, and somewhat emaciated. The tumour evidently contains fluid; but seems about one-half filled, Mr. Martin observed that it was formerly quite tense. On making pressure over the region of the liver, the swelling became much more prominent. On dissecting the integuments from the tumour, it was found to contain pus, supplied from an opening between the sixth and seventh ribs, about the shape, and a little larger in size, than an almond. There was permanent adhesion between the peritonæum lining the diaphragm and abdominal parietes, and that covering the superior surface, right extremity, and anterior margin of the liver. The right lobe of the liver was converted into the sac of an enormous abscess, containing, as near as we could judge, about three pints of pus. It extended up to the fifth rib, having pushed the diaphragm before it, and compressed the lung. The pus had formed a passage along the process of peritonæum, extending from the diaphragm to the upper surface of the liver. It had then passed through the substance of the diaphragm, had separated the periosteum from the seventh rib, to the extent of two inches, and forming an oval aperture between the sixth and seventh ribs, eventually produced the external abscess under the integuments of the thorax. On examining the thorax, tough pleuritic adhesions were found existing on the right

side, to such an extent that the lower portion of the pleuritic cavity seemed obliterated. We therefore had a good reason why the pus passed through the intercostal space rather than through the pleura. The left lobe of the liver was congested, with a slight tendency to the nutmeg appearance. The gall-bladder was full of dark-coloured bile.

The stomach and intestines were distended with flatus; the other abdominal viscera were tolerable healthy. There was no trace of peritonæal inflammation. In the thorax we found, besides the numerous adhesions of the right pleura already alluded to, some recent adhesions on the left side. The lungs were generally congested; the lower portion of the right was in a state almost approaching hepatization.

*Remarks.*—There was a want of many of the symptoms denoting hepatic abscess. There was no rigor or hectic, at least during the time Mr. Martin attended her. There was no abdominal tenderness; nor was there any marked difficulty in lying on the left side. No swelling was noticed in the region of the liver. With respect to the first symptom, it has been suggested, the rigors generally occur only at the time when pus is forming, not when it is formed. But as it is most probable that there was a gradual extension of purulent formation throughout her illness, this argument loses its weight. Nor will it at all apply to the absence of hectic, as we well know that this symptom is present, not only when puss is forming, but when it is already formed.

There were, however many symptoms of hepatic disease present in this case. The long-continued pain is a symptom noticed since the time of Galen. (Ponos chronios hepatos, page 398.) The stools were clay-coloured; the tint of the skin muddy and pallid, not distinctly jaundiced: in fact, it was more a want of the proper tint—what the Greek author before mentioned calls "achroa"—than a positive discoloration. At the post-mortem, another symptom presented itself—viz., upon making pressure over the liver, the tumour became prominent, and at once induced us to consider that it was connected with an abdominal abscess. An empyema would, perhaps, do the same, were it pointing between the ribs; but then it points higher up than the present tumour, and, during life, no prominence could be given to it by pressure during an inspiration, as the descending diaphragm would prevent it from being pushed up. If, therefore, we make our pressure during an inspiration, and find a prominence of the thoracic tumour whilst we are so doing, we may consider it diagnostic of fluid in the liver communicating with the parieties of the chest.

*Place of pointing.*—We can hardly employ the term "pointing" in this case, as, although pus was under the integument, the skin became neither red on the surface, nor thin, as it usually is, before the contents of an abscess are evacuated. The place where this hepatic abscess poured out its contents was a most unusual one. Still cases of the kind are on record. Senac describes several cases of abscess of the liver, where the pus passed under the pleura, after having made an opening through the diaphragm. Portal relates a case of this kind. "A person was attacked with inflammation of the liver, which was treated with copious bleedings, and he appeared perfectly cured, with the exception of some difficulty of breathing, and a slight pain in the right side. Some months after, an inflammatory tumour appeared in the right axilla; it suppurated, and was opened, when more than three pints of pus escaped. The opening cicatrized, and the patient was cured."—Portal, *Anatomie Medicale*, tome v. p. 304.

*Cause of the Disease.*—Probably chronic inflammation of the liver was the immediate cause of the formation of pus. The blow was, in my opinion, the exciting cause which developed this inflammation. Her system was predisposed by habits of intemperance, for she drank both beer and spirits in excess.

The late hot summer probably contributed its share in congesting the hepatic circulation.

*Immediate cause of death.*—We certainly anticipated, from the sudden failure at last of the vital powers, and the acute pain about the abdomen, that effusion of the contents of some viscus had taken place into the peritonæal cavity, and consequent peritonitis had resulted. But nothing of the kind was elicited by our post-mortem investigation. It is not unusual for patients, whose system are undermined by extensive disease, to continue in poor health for some time without any marked suffering, and then suddenly to sink without any known aggravation of the original disease. In the present case, an attack of spasmodic pain, probably induced by vitiated secretions, was sufficient to turn the scale in favour of death.

*Treatment.*—Should the tumour have been opened: Mr. Martin had determined on examining the nature and contents of the tumour with an exploring needle, with a view to evacuating its contents. He had fully ascertained the presence of fluid in it, and had kindly requested me to see the case with him, when the last severe attack precluded the possibility of resulting to an operative proceeding. To a certain extent, benefit might have resulted from opening it. We had not to dread imperfect adhesion, for that was most complete. But as Dr. Budd has pointed out, in his excellent work on disease of the liver, "the walls of abscesses of large size are generally firm and unyielding, and cannot collapse, so as to close the cavity when the abscess is opened." We therefore get suppuration continued after the contents have been discharged, and the patient dies worn out by the profuse drain on the system. That this is not invariably the case, the relation which I have extracted from Portal will prove; but I have no doubt of its general correctness. Amongst the ancients, the abscess was opened by burning; if the pus were pure and unmixed, a satisfactory result was anticipated; but if it resembled dregs or grounds, (amorgé,) death was expected, (Hippocrates, Aphorism xlv. sect. 7, p. 1260.) Celsus, however, mentions that some opened it with a scalpel, and then cauterized the interior, (Liber iv. cap. 8.) With our own unsatisfactory practice in view, we cannot stop to censure these cruel modes of treatment.

## ECTROTIC TREATMENT OF SMALL POX.

To the Editors of the *Montreal Medical Gazette*.

Gentlemen.—Since I communicated my ideas to you, on the subject of the application of the *tincture of iodine* in small pox, I have not had many opportunities of further testing its efficacy, as (fortunately for the community) the disease has not been prevalent in this city. The occasions, however, that I have employed it in have been attended with very satisfactory results. I am now desirous of knowing the opinion of such members of the faculty, as have given a *fair trial* to the application, and for this object I have to request insertion of this invitation, to those who may have made trial of the application. The favorable opinions I have heard expressed by several of my professional conferees, strongly support the belief I have already advanced, that this remedy possesses *cosmetic* (if not prophylactic) powers superior to any other application with which I am acquainted, in addition to which it has the advantage of more easy application,—and I trust I do not over estimate its value, when I add further, that it has also antiphlogistic powers, which promise to obtain for it a more than ephemeral favor.

During the course of the last month I treated a severe case of confluent small pox, which assumed a malignant or hemorrhagic character, before its termination, notwithstanding the unfavorable nature of the case, for testing the application, I had the satisfaction of witnessing the most decided good effects from it, in controlling the inflammatory action in the parts to which it was applied: the face, eye lids, and fore-arm, remaining throughout free from tumefaction; the patient had neither delirium nor salivation, and the parts painted were comparatively comfortable. On the 8th day, while everything seemed favorable, the pustules assumed a

hæmorrhagic appearance, which continued to increase till the 12th day of the eruption, when he died, having preserved his intellect to the last. The post mortem inspection showed that the inflammatory action had not involved the deeper seated structures, and in all probability there would not have been any scars or pits, had the patient survived.

Several medical gentlemen visited the case, and expressed their conviction of the beneficial effects of the application. I now invite the test of further experience, which can only be obtained by others trying fairly the application, and candidly giving us the results of their trials.

I would again beg to notice, the necessity there is, of applying the tincture in the *very earliest stages of the eruption*, if the full benefit is to be expected from it; when late applied, it does not stop the puffing of the face, nor control the inflammatory action, as it does when used early.

I am, Gentlemen,  
Your obedient servant,

J. CRAWFORD, M. D.

St. James's Place, December 25th, 1844.  
—*Montreal Medical Gazette*, Jan. 1. 1845.

### ON A REMEDY (*the Ambrosia Trifida*) FOR MERCURIAL SALIVATION.

By WM. ROBERTSON, M. D., of Harrodsburgh, Ky.

One of the most common plants on our farms, possesses, as I have discovered, more prompt and efficacious remedial powers, in the cure of mercurial salivation, than any article I have ever seen tried for that loathsome disease. During a practice of forty years, I have seen the disease in all its forms, and various remedies employed for it, but do not recollect to have ever witnessed an obvious curative influence exercised by any of them.

The remedy I have lately adopted in every case in which I have tried it, has proved a speedy and effective cure, relieving the patients in from six to eight hours, removing every symptom of salivation. However, I would observe, that all these cases have been of a mild character, or in the incipient stages. What influence this remedy would exert in those violent cases of the disease, occasionally met with in practice, attended with extensive swelling, ulceration, sloughing, and falling out of the teeth, I am unable to say, having met with no such case since my adoption of the article; but I think it probable that such a case would call for the use of other remedies. Nevertheless, the use of this remedy, in the commencement of such cases, would, very probably, arrest their progress, and prevent their attaining an aggravated form. In this view, I am sustained by the result of a case, that came under my notice within the last month. In this case, the power and influence of this medicine, to control mercurial salivation, were most strikingly exemplified. It was that of a female, aged thirty-five, in the eighth month of her pregnancy, of delicate frame and phlegmatic temperament, and predisposed to hysteria. She was advised, for habitual costiveness and torpid liver, to take one or two doses of calomel, milder purgatives having procured only momentary relief. The calomel was retained about thirty hours, although followed by a large dose of castor oil, in ten or twelve hours. The consequence was, a violent attack of mercurial salivation. Within twenty-four hours from the attack, some unusual symptoms having manifested themselves, the family became alarmed, and I was hastily called to visit her, five miles in the country.

The bowels having been evacuated by injections, I found the patient without fever, and only complaining of the salivation. The gums and mucous membrane of the mouth were inflamed, a little swelled, and had a soft, puffy appearance; the whole surface was covered with thick viscid mucus, adhering with unusual firmness, and so offensive in smell and taste to the patient, that every effort to discharge it was at-

tended with nausea and vomiting; a putrid effluvia was exhaled with every breath, along with the mercurial fetor, perceptible and offensive to the bystanders. It was this symptom that had alarmed the family: they concluded that mortification had already taken place. All perception of taste had ceased, and food and drinks were rejected with disgust. The putrid smell perceptible in the breath, evidently proceeded from the viscid mucus, adhering to the mouth and throat, acquiring a putrescent tendency, from being detained there long after the secretion was thrown out from the secreting glands, &c. This was proved by an examination of the secretion; when discharged (as it was with great effort) into some vessel, the same putrid smell was present, and the mucus was about the consistency of the white of an egg.

This case of pure mercurial salivation—I say pure, because this disease is very generally accompanied by other diseased conditions of the system—afforded me the best opportunity I had seen of testing the powers of the remedy. I immediately procured, from an adjoining field, a large handful of the green leaves; poured on them, in a suitable vessel, one quart of boiling water; as soon as it was cooled sufficiently, the patient was directed to wash the mouth and throat, freely, every half hour; nothing else was used, except the common soda powders; they were given every three hours, in an effervescing state.

I remained with the patient six hours. By that time, the mouth and throat were cleared of the thick viscid mucus; the nausea and vomiting had ceased entirely; the natural taste was nearly restored; the patient felt greatly relieved, and partook of some light food with relish. The next day, she was still improving and comfortable, and, on the third day, within forty-eight hours from the time of commencing the use of the remedy, every symptom of salivation was removed, and the female was engaged in her usual domestic avocations.

I will give another case, which occurred within the last two weeks, because there is a fact connected with it, giving rise to an opinion that the remedy may prove beneficial to inflammation in mucous membranes, arising from other causes than mercury. A gentleman, from bathing in a river, took cold. He called on me, complaining of headache, sore throat and a stiff neck. He was bled; some active cathartic pills, containing a small quantity of calomel, were given, with direction to use them so as to keep the bowels in a solvent condition; to use a light diet, and apply vol. liniment to the throat. Three days afterwards, he called on me to inform me that the pills, as used, had not been active enough, and that he was salivated; the sore throat still continued without abatement.

I gave him a handful of the fresh leaves, and directed him how to use the infusion. He afterwards informed me that twenty-four hours' use of the remedy removed every symptom of salivation, and that the sore throat had also been cured. He further informed me, that, at the time he received the remedy, he felt so badly about the mouth and throat, that he did not expect he would be able to preach for a week (he is a minister of the Gospel), but that, after using the remedy, he found himself as able to preach at the end of two days, as ever he had felt in his life.

May not this remedy prove beneficial as a local application in leucorrhœa, prolapsus uteri, and gonorrhœa, also in various affections of the throat? I shall, certainly, in future, extend its use to diseases of this character, and I hope that practitioners of medicine, especially those residing in districts where the plant abounds, may be induced to give it a trial, and report to the profession the result of their practice.

This plant is known in all parts of Kentucky, and is known to all our farmers, under the popular names of horseweed, richweed, horsemint, and horsecane, but it is an entirely different plant from that described in the appendix to the



fourth edition of *Wood and Bache's Dispensatory*, page 1137, under the title of *Collinsonia, Canadensis*, and vulgarly known by names similar to those applied to the Kentucky plant.

I was induced to make a trial of this plant in mercurial salivation, from the fact that this plant, when given to a horse affected with a disease called slabbering, effects a complete cure of the disease in a few hours.

This salivation, or slabbering disease in the horse, doubtless proceeds from some diseased condition of the salivary glands. About two years ago, passing a field where the plant was abundant, its effect on the salivated horse occurred to my mind, and, immediately, a question suggested itself—that, if this remedy can exert so speedy, and such surprising effects, on the salivary glands of the horse, may it not possess properties that would render it useful and beneficial in salivation in the human subject? Under this impression, I resolved on a trial of its powers, in the first case that should present itself. The trial convinced me that it possessed powers for relieving and curing mercurial salivation, greatly surpassing any means I had hitherto used, and subsequent experience has firmly established that conviction.

The effects produced by the local application of the infusion in the human subject, induces me to think that the effect it produces on the horse does not arise from the plant taken into the stomach, and reaching the diseased glands, through the medium of the circulation, but that the direct application of the juice of the plant, while the horse is chewing it, effects the cure. It has so happened, that all the cases in which I have had occasion to use the remedy, have occurred during the spring, summer, or fall, when the plants are in a green state. I have the dried leaves, but have never used them; whether the leaves lose any of their virtues by drying, I am unable to say. I have never heard of the plant being used in any shape, as a medicine, until I tried it as a remedy for salivation.

[Dr. Robertson was polite enough to send us, with the above communication, some dried specimens of the above plant, which we submitted to our friend, Dr. R. E. Griffith, an able botanist, from whom we have received the following note:—

Dr. Hays:—Dear Sir,—The plant you left with me appears to be *Ambrosia Trifida*, though, from the absence of flowers or fruits, it is difficult to decide with absolute certainty; at the same time, the characters of the leaves and stem are so striking, as to leave little doubt on the subject.

Torrey and Gray (*Flor. Nor. Amer.*, ii. 290) describes it as follows:—"Stem tall and stout, hairy, rough; leaves scabrous and hairy, deeply three-lobed; the lobes oval, lanceolate, acuminate, serrate; the lower leaves often five-lobed; petioles narrowly winged, ciliate, racemes often paniculate; fruit (fertile involucre) turbinate-obovoid, with a short conical pointed apex, six-ribbed, the ribs terminating in as many cristate tubercles.

"Low grounds, and along streams, Canada to Georgia, and west to Louisiana and Arkansas. Aug.—Sept. annual."

It is also noticed by Riddell (*Synop. Flor. West. States*. No. 1014) as every where abundant: he gives the vulgar name of bitter-weed to it. Rafinesque (*Med. Flor.*, ii. 190) speaks of it, and says that it is called horse-weed, one of the names given by Dr. Robertson, and states that the species of *ambrosia* are antiseptic.

The *A. Trifida* has not, as far as I can ascertain, been employed as a remedial agent, though some of the other species have been used, with some success as febrifuges. Should the present plant, on a more extended trial, be found to be as successful, in cases of mercurial salivation as is shown by Dr. Robertson, it will be a very important addition to the *materia medica*. It is to be found in abundance in the

vicinity of Philadelphia. It is probable that the *A. Elatior*, or rag-weed, so common in all our fields, would prove still more efficacious, as its sensible properties are much more developed than in the present plant.

Yours, &c., R. E. GRIFFITH, M. D.]  
*Am. Jour. of Med. Science.*

## ON THE CURE OF ERUPTIONS ON THE HEAD AND FACE IN CHILDREN.

M. Trousseau makes some interesting remarks, in his *Journal de Medecine*, upon the rules that should guide the practitioner in endeavouring to heal the eruptions, sores, &c., which affect the head and face of young children. To avoid circumlocution, we will employ, in the extracts we make from the paper, the term by which these are designated in France—*les gourmes*—equivalent to our appellation "breakings-out."

It is a popular opinion that danger attends the attempt to heal these, and this is sometimes true when their manifestation is connected with a morbid diathesis. Others, however, unconnected with this, do much mischief, and should be healed at once. A diathesis may be acquired or congenital; and the *suppurative diathesis* is that which of all others is most evidently acquired. The "*gourmes*" are, indeed, generally one of the manifestations of this; while in other cases the *dartrous diathesis*, which is usually hereditary, plays an important part in generating the eruption. The form of the "*gourmes*" will vary, according as one or other of these prevail. Impetigo, ecthyma, impetiginous eczema, intertrigo, furunculus, superficial phlegmon, and ophthalmia, are more especially connected with the *suppurative diathesis*; while lichen, psoriasis, eczema rubrum, pityriasis favus, and chronic inflammation of the eyelid, are more often dependant upon the *dartrous diathesis*.

1. When, from distress, neglect, or other cause, a superficial phlegmasia becomes, in the course of several months, converted into a suppurating sore, in the groin, behind the ears, or upon the scalp of the child, the economy, which at first suffered from the presence of an useless discharge, accustoms itself to it to such an extent, that, although its suppression at an early period would have been very advantageous, this must now be accomplished cautiously, or disease and ill health will result. 2. Again, when an impetigo suddenly develops itself in a child previously in ill health, and becomes chronic, the health may become manifestly improved, as long as the eruption continues. It is evident that, for a certain period, at least, it should not be meddled with, and even then that its cure should be very cautiously undertaken. 3. The development of the "*gourmes*" may be the signal of serious disorders in a child prior to this in good health. In this case their cure, if fever be present, should be set about at once, without any fear of the pretended effects of a retrocession. 4. When a child's health is good, we must endeavour by every means to prevent the establishment of the "*gourmes*;" for, if suppuration be accidentally established, it may give rise to other suppurations—in fact, generate a suppurative diathesis. This diathesis, again, may manifest itself, not only on the skin and mucous membranes, but also in the internal organs; and thus, in children suffering from "*gourmes*," variola, rubeola, scarlatina, &c., are always more fatal. 5. When the "*gourmes*" invade important parts, as the eyes, nasal fossæ, auditory canal, &c., we must use every means to prevent their extension.

*Treatment.*—The superficial excoriations which are found behind the ears and between the folds of the skin in gross children, usually arise from negligence, and often disappear upon the mere observance of cleanliness. Soapy baths, dusting them with lycopodium, or the interposition of lint



moistened in olive oil, usually suffice to dry them up; but when they are obstinate, white precipitate ointment, (drachm 1 ad drachms 10 axung,) or Galen's cerate, may be employed. Frequently, to cure the intertrigo behind the ears, it suffices to take care that the string of the cap be not too tightly tied, or to prevent the surfaces of the skin from coming in contact with each other.

*Impetigo, impetiginous eczema, and ecthyma*, in their acute form, require special treatment. Dr. Trousseau, regarding the first two as true eruptive fevers, just as scarlatina, variola, &c., is careful in not suppressing them too rapidly, although he does not encourage their development. So far from this, believing with Sydenham that our object should be to prevent eruptive diseases becoming confluent, he prescribes prolonged baths, abstinence, acid drinks, and mild laxatives. The children are not to be too much covered up, nor to be kept in bed. Excessive cleanliness is to be observed, and great care taken that they do not scratch the pustules, and diffuse the disease with their nails over other portions of the body. When the febrile action has ceased, we have to do with a mere local disease, and must get rid of it as soon as possible. Unfortunately, however, impetigo oftentimes succeeds to measles and scarlatina; in which case, our proceedings must be more circumspect. If the impetigo be too rapidly healed, in this case, the lungs, or some other internal organ, will very probably become diseased, we having thus destroyed the revulsive affection of the skin, which acted as a preventive, or as a curative, if they were already affected. There are circumstances, however, in which such caution would be misplaced. Thus, a violent inflammation of the ocular mucous membrane may spread to the eye itself, or a very severe eczema behind the ear may give rise to dangerous or even fatal enlargement of the cervical glands. In both these cases we must at once cure the eruption, as it gives rise to greater evils than we have reason to fear from its repercussion.

When the *impetigo* and *eczema* become chronic, and the condition of no internal organ causes alarm, I treat them with baths, ointments, lotions, purgatives, blisters, or depuratives. *Alkaline baths* are the best of remedies when the disease is attended with itching. To 75 or 100 quarts of water I usually add from 12 to 20 drachms of sub-carbonate of soda or potash. These baths most effectually clean the skin, soften the crusts, and relieve the pruritus. The dreadful suffering this last causes proves its relief alone is no slight advantage. With a solution rather stronger than that employed for the baths, lotions may be made and locally applied two or three times daily. These baths are suitable for the dry forms of *eczema*, for *lichen*, and for *pityriasis*. But when the *eczema* is very acute, and is accompanied by great redness and abundant discharge, *mercurial baths* are to be preferred. I prepare these by adding to 50 or 70 quarts of water 3 or 4 scruples of corrosive sublimate, dissolved in 1 oz. or 1½ oz. of alcohol. I have used these baths for fourteen years in every variety of dartsous affection of the skin, with the greatest advantage. Some practitioners consider them dangerous, but I order about a thousand annually, and even for women in the weakest state, and children of the earliest age, without ever seeing any accidents result from their employment. I have had children placed in these baths, half the skin of whose bodies had been destroyed by *eczema*, and no injurious absorption of the mercury has taken place, while the epidermis has become regenerated in a few days. Very young infants should not be kept in the bath more than a quarter of an hour, at the farthest, but those who are more than a year old may be retained in it for half an hour. The severest forms of *eczema*, *lichen*, *erythema*, and *impetiginous eczema* soon yield to these baths, and they form the most appropriate treatment of the *syphilides* of infancy. In simple, chronic, *impetigo*, I find *sulphureous* baths, formed of 1 or 2 drachms of sulphuret of potash to 50 or 70 quarts of

water, best. But they are especially indicated in children covered with furunculi, or little sub-cutaneous abscesses. The action of these baths is no doubt chiefly topical, for ointments composed of the same materials, and applied to circumscribed spots, are as useful; but when we find the alkaline baths correcting acid urine, and the mercurial baths relieving syphilis, it is evident that some portion of their material is absorbed, as is also shown by the odor which the sulphureous baths impart to the secretions. Indeed, experience has proved the efficacy of alkalies and mercurials, taken internally, in moderating the dartsous diathesis, which manifests itself in herpetic eruption.

When the affections of the skin are very limited, *lotions*, composed of the same materials, in larger proportions than in the baths, may be substituted. The strength of these must depend upon the susceptibility of the skin, and condition of the lesion; but the practitioner must not be afraid of using them pretty strong, as the temporary irritation they excite is often advantageous to the affection. In the treatment of "*gourmes*" of the hairy scalp, the sulphuret of potassium may be employed in such strong solutions as to be almost caustic. The temperature of these lotions should be as high as can possibly be borne. This may seem strange advice at first, but doubtless much of the efficacy of the vapor bath in cutaneous affections depends upon the great heat thus produced, and the success attendant upon the employment of infusions of simple herbs by empirics, in like manner results from their using these very hot.

Among the *ointments*, those containing *mercury* occupy the very first place. White precipitate and calomel are usually to be preferred to red precipitate; but nothing absolute can be stated, for in apparently identical affections, sometimes the one and sometimes the other preparation proves most efficacious. The two former may be used in the proportion of one part to five or ten of cerate, and the red precipitate half as strong. In some children, lard, and in others cerate, forms the best vehicle. In some diseases of the hairy scalp, alkaline or sulphureous ointments are preferable to the mercurial ones, and this is the case especially in the moist and scabby forms. In the dry and squamous forms, ointments formed of mercury, of pitch, or of sulphate of copper, are highly useful. But I cannot too often repeat, that we must try various means, and neither allow ourselves to be too much encouraged by former success, nor discouraged if we find a remedy useful in some cases of no avail in others. Even for the same disease, the practitioner should always be provided with a certain variety of remedies, which will all, some day or other, be required.

I now come to the consideration of the employment of *blisters*. And first, let it be observed, that a substance, such as Burgundy pitch, croton oil, or mercurial ointment, which, when applied, sometimes gives rise to the production of a local crop of vesicles, occasionally also leads to a *general eczema*, first acute and then chronic. This is a rare occurrence in men, rather more common in women, and very frequent in children. A few months seldom pass without my seeing, in hospital or private practice, an acute, simple, or impetiginous eczema attack children, after the unavoidable employment of a temporary blister in pneumonia. Generally the disease assumes a chronic character; and if we consider that, up to this time, the child was not the subject of any cutaneous affection, we must admit the blister has been at least the occasional cause of its production. Seeing, then, that in a healthy skin, a blister may develop a chronic cutaneous affection, ought we to attach much importance to this means for the treatment of "*gourmes*," and rather ought we not reject it in the majority of cases? I have now in my wards a young child, who, when the subject of a slight lichen upon some few points of the skin, was ordered a blister by its attendant. A few days after, the arm to which this had been applied was covered with eczema, which quickly spread over

the rest of the body. I have frequently, in obedience to routine or theory, applied blisters to children affected with "*gourmes*," but have often repented doing so, and seldom seen benefit result. Believing, then, blisters only cause additional irritation, without relieving that already existing, I prescribe them in cutaneous affections; but I employ them in treating the "*gourmes*" of the mucous membranes. Experience has often shown me disease behind the ear, or of the hairy scalp, alternating with ophthalmia or chronic eczema of the nasal fossæ, as if the two effections were incompatible. In this case, a blister to the arm is generally useful, although sometimes the derivation will not establish itself in the direction chosen by the attendant, but obstinately tends towards its original route. We may leave the blister on the arm, at the same time endeavouring to encourage the fluxion where it seems most willingly and beneficially inclined to place itself. But if blisters are of use in the cure of these, so to say, alternating "*gourmes*," they are not so in "*gourmes*" resulting from propagation. Thus, we may often see an impetiginous eczema gradually invade the forehead, eye-lids, conjunctiva, the rest of the face, and penetrate into the nose. I call this propagation, and in such a case blisters are of no avail. But if an ophthalmia replaces the eczema of the skin, which in its turn acquires predominance when the ophthalmia is relieved, I call it alternating or compensating, and here blisters are in general useful. If they are useful here, they are imperiously demanded, when a bronchitis, an enteritis, a pulmonary, or intestinal catarrh is set up, and alternates with a cutaneous "*gourmes*;" for all these are but other manifestations of the same diathesis which a true pathologist must never overlook.

To decide upon the exhibition of *purgatives* is also somewhat difficult. The popular idea is, that these medicines constitute our sheet-anchor in treating "*gourmes*." If a somewhat severe diarrhœa occurs in a child subject to these affections, we observe on the very first day the eruption becomes paler, and if it continue, the inflammatory fluxion entirely disappears, and the cure may be effected without any topical remedy. If, however, the diarrhœa is naturally, or under the influence of medicine, arrested, you find the cutaneous affection almost immediately take on all the marks of activity it had lost. So that the antagonism between the skin and the gastro-intestinal mucous membrane is evident enough. With some practitioners, an artificial and spontaneous diarrhœa are the same things—in both, there is an intestinal flux. But the observer sees things differently. In spontaneous diarrhœa all the economy is prepared for this new fluxionary movement, and when it is established, it draws within its sphere of action a multitude of secondary vital acts. In artificial diarrhœa the economy resists the cause provoking it. There is doubtless a flux from the intestinal canal established; but it is isolated, all other acts of the economy retaining their independence. Compare the condition of the man who becomes the subject of a diarrhœa with his who takes a bottle of Seidlitz water, observe the exhaustion and *malaise* of the one, and the little inconvenience which a much greater number of stools causes to the other. A woman has not her menstrual discharge, or a man his hæmorrhoidal flux at their usual period; will the taking away a far larger quantity of blood than that usually lost from the vulva of the one, or the anus of the other, have the same effect on the economy? Some persons are affected several times in a year with an erysipelatous swelling of the nose or ear; substitute for such spontaneous irritation that produced by a large blister, and see if the effect will be the same. In a spontaneous act there is such a condition of the economy, that every function is in some measure subordinate to the actions about to take place, which can hardly ever be the case when the effect is sought to be produced by a therapeutical agent, unless indeed the indication has been well prepared and skillfully seized.

I have said enough to show that we must not judge of the influence which a purgative will exert by that which a spontaneous diarrhœa produces. But, if in lieu of the transitory action of a purgative given from time to time, we produce effect from day to day, or almost continuously; or again, if a temporary action be very energetic, and frequently renewed, we may produce results less marked, it is true, than those proceeding from spontaneous diarrhœa, but yet considerable enough to be of great importance to the practitioner. It remains to inquire whether a plan so acted upon is applicable to ordinary cases? I reply, it is not. It is dangerous for young infants, whether they are at the breast or have been weaned. Gastro-intestinal phlegmasiæ, at this age are of a grave character, whether considered as preventive of the active nutrition so requisite at this period of life, the acute, and often fatal affections they gave rise, or the chronic ailment they predispose to. Purgatives, to be of service in "*gourmes*," must be active, and it is easy to give rise to greater disorders than those we are seeking to combat. Such precautions are not required for adults, adolescents, or even for children above their third year, in whom these gastro-intestinal phlegmasiæ are established with difficulty, usually exempt from danger, and easily curable. If in an infant a slight diarrhœa, which had caused neither exhaustion nor wasting, and yet had much improved the condition of the "*gourmes*," becomes arrested, we must endeavour by the aid of purgatives, to reproduce it, and maintain it as nearly as possible in the same state it had previously existed in.

Various vegetable ptisans have acquired a reputation as *depuratives*, and many of these, as bitter-sweet or wild pansy, and also chicory-juice, are very useful adjuvants when taken for a long time by the children who have passed their first infancy. But I must protest against the employment of cod's-liver oil and hydriodate of potass to this end, even when the "*gourmes*" can be traced to a scrofulous origin. I have almost always found these two therapeutical agents produce vesicular and papular eruptions; and, during the treatment of rickets, I have frequently been obliged to suspend the administration of cod's-liver oil, because the skin has become covered with eruptions sufficient in many cases to excite considerable febrile action.—*Bulletin of Medical Science.*

## SURGERY.

### INSENSIBILITY DURING SURGICAL OPERATIONS PRODUCED BY INHALATION.

A certain Dr. Morton, a practising dentist in Boston, is advertising in the newspapers of this city, that he has secured a *patent* for what he calls "his improvement, whereby pain may be prevented in dental and surgical operations," and he now offers to sell "licenses to use said improvement," to "dentists, surgeons, and other suitable persons." Looking upon this as nothing more nor less than a new scheme to tax the pockets of the "enlightened public," we should not consider it entitled to the least notice, but that we perceive by the Boston Medical and Surgical Journal, that prominent members of the profession in that city have been caught in its meshes.

From a paper by Dr. H. J. Bigelow, "one of the Surgeons of the Massachusetts General Hospital," contained in the Boston Journal of the 18th of November, 1846, we derive the astounding information that Dr. Warren and Dr. Hayward—men at the very top of our profession—have allowed Morton to administer his "preparation"—"a secret remedy" for which he has taken out a patent—to patients on whom they were about to operate! Dr. Bigelow says, in extenuation of the course pursued by Morton in taking out a patent, that "it is capable of abuse, and can readily be applied to nefarious ends;" that "its action is not yet thoroughly understood, and its use should be restricted to responsible persons;" and that, one of its greatest fields is the mechanical art of dentistry, many of whose processes are, by convention, secret, or protected by patent rights. It is especially with reference to this art, that the patent has been secured."

Now we would like to know of Dr. Bigelow, whether any such restricted object is contained in the patent? None such appears in the proprietor's advertisement, and we apprehend that time will show that the sale is only limited by the price and disposition to purchase.

"We understand," says Dr. B., "already, that the proprietor has ceded its use to the Massachusetts General Hospital, and that his intentions are extremely liberal with regard to the medical profession generally." Not a word of the sort is in the proprietor's advertisement. Did not Swaim give his panacea to the poor gratis, and a lot of ground to build a church on to boot? And did not John Williams, the oculist, with a trunk full of seals and royal testimonials, invite all the reverend clergy to come to him, and to bring with them all the poor blind people of their parishes, that he might cure them without money and without price?

The "preparation" is inhaled from "a small two-necked glass globe," and smells of ether, and is, we have little doubt, an ethereal solution of some narcotic substance. The patient is rendered insensible for a period of from five or ten minutes to an hour; the pupils are dilated; "very young subjects are affected with nausea and vomiting, and for this reason Dr. M. has refused to administer it to children." In one case, a patient of Dr. Dix, "the respiration was very slow, the hands cold, and the patient insensible." Various active measures were found necessary to restore the patient, and "complete consciousness returned only at the expiration of an hour."

We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty, into the quagmire of quackery by this will-o'-the-wisp; and if any of our respectable dentists should be tempted to try this new "patent medicine," we advise them to consider how great must be the influence of an agent over the nervous system, to render a person unconscious of pain—the danger there must necessarily be from such overpowering medication, and that if a fatal result should happen to one of their patients, what would be the effect upon their conscience, their reputation and business, and how the practice would be likely to be viewed by a Philadelphia court and jury? We cannot close these remarks, without again expressing our deep mortification and regret, that the eminent men, who have so long adorned the profession in Boston, should have consented for a moment to set so bad an example to their younger brethren, as we conceive them to have done in this instance. If such things are to be sanctioned by the profession, there is little need of reform conventions, or any other efforts to elevate the professional character—physicians and quacks will soon constitute one fraternity.—*Philadelphia Medical Examiner, Dec., 1846.*

## CHEMISTRY.

### GUN-COTTON—XYLOIDINE.

It is rather more than two months since we inserted a notice of a remarkable chemical discovery reported to have been made by Professor Schönbein of Basle. We allude to the preparation of cotton so as to give it fulminating properties, and to render it a safe, inexpensive, and simple substitute for gunpowder. We then announced it as probable that the professor would give a full account of his alleged discovery at the meeting of the British Association at Southampton. To the surprise and disappointment of all scientific men, this meeting was converted into an advertising medium for the so-called gun-cotton; and the professor declined to give the least intimation respecting the preparation of the substance, as it was his intention to take out a patent for it, and thus render it a commercial speculation. After the noble example of Sir H. Davy, who declined to patent his safety-lamp, we should have thought scientific men would have hesitated before resorting to the patent laws for a pecuniary remuneration; and we certainly think that the British Association committed a grave error in allowing the subject to be brought publicly forward, when there was no intention, on the part of the alleged inventor, to describe the process by which the gun-cotton was prepared.

Within the last week, public attention has been much directed to the subject. It is reported that the German Diet has conditionally awarded 100,000 florins as a reward to the inventor. The *Athenæum* informs its readers that a hundred weight of the

gun-cotton is now on its way from Basle to Woolwich, having been ordered by our government with a view of testing its applicability to heavy ordnance.

In the meantime, although it does not appear that Professor Schönbein had divulged his secret, Dr. Otto, professor of chemistry in Brunswick, has addressed a letter to the *Hanoverian Gazette*—since published in the *Times*—in which he states that he was led, from the researches of Pelouze, to infer that the cotton was soaked in nitric acid of a certain strength, washed, and dried. Thus the secret of the gun-cotton became at once public. On the 4th of October, Dr. Otto performed certain experiments with his preparation, the results of which satisfied him that it must be identical with the gun-cotton of Schönbein. At a late meeting of the Academy of Sciences in Paris, M. Arago gave an account of certain experiments performed with prepared cotton by M. Morel, the results of which satisfactorily showed that it was capable of forming an admirable substitute for gunpowder; and with all that enthusiasm which characterises our Gallic neighbours, M. Arago pictured an army entering on a campaign, with a few bales of cotton and a few gallons of nitric acid, making their own explosive cotton as they required it! M. Morel, it is stated, has secured a patent for France; and, so far as we can ascertain, he has acquired his knowledge of the subject independently of any communication from M. Schönbein. The latest intelligence is that the last-mentioned gentleman has procured a patent for England and her colonies.

Having thus given a slight history of what has transpired publicly on this subject, we now propose to consider how far M. Schönbein has a claim to be regarded as the inventor of gun-cotton, assuming that he employs nitric acid like Dr. Otto and M. Morel.

About six or seven years since, it became pretty generally known to the chemists of England, from the researches of M. Pelouze, that when woody fibre, whether as paper, sawdust, or lincn, was saturated with strong nitric acid, washed, and dried, its properties were considerably altered. A principle called *xyloidine* was produced; and the woody fibre, although all the acid was washed out of it, burnt rapidly, and often with explosive violence. We saw this experiment made about six years since; but from that time the subject appears to have received from chemists no particular notice, until the alleged invention of Schönbein recalled the attention of Dr. Otto and others to the researches of Pelouze.

In various chemical works published in 1842–3, the action of nitric acid on woody fibre is especially mentioned. Thus, in Turner's Chemistry, it is stated, in reference to woody fibre,—"In strong nitric acid sawdust dissolves; and on the addition of water, a white insoluble powder is deposited, which contains nitric acid, and explodes when heated." In Graham's Chemistry the facts are more explicitly stated, as the following extract will show:—"Nitric acid, in its highest state of concentration, exerts no violent action upon certain organic substances, such as lignin or woody fibre and starch, for a short time, but unites with them, and forms singular compounds. A proper acid for such experiments is procured with most certainty by distilling 100 parts of nitric acid with no more than 60 parts of the strongest oil of vitriol. [These are exactly the proportions recommended by Dr. Otto.] If paper is soaked for one minute in such an acid, and afterwards washed with water, it is found to shrivel up a little, and become nearly as tough as parchment, and when dried, to be remarkably inflammable, catching fire at so low a temperature as 356 deg., and burning without any nitrous odour (Pelouze)."

Professor Graham here, it will be seen, gives, in 1842, an outline of Pelouze's discovery, and by the substitution of cotton for paper, it becomes the so-called discovery of another in 1846!

We shall now give an extract from the *Traité de Chimie* of M. Dumas. At page 12, tome vi., published in 1843, this author says:—"When cloth (either linen or cotton,) or a sheet of paper, is soaked for a few minutes in nitric acid of a specific gravity of 1.4, and afterwards washed in water, the xyloidine formed at the expense of a part of the vegetable tissues remains locked up in the fibre, rendering the paper and the cloth impermeable to water, and much more combustible. These properties suggested to M. Pelouze the idea of employing them in the manufacture of cartridges for artillery!"

\* Lorsqu'on trempe pendant quelques minutes un morceau de toile ou une feuille de papier dans l'acide azotique à 1.4 de den.

Schönbein may have known nothing of Pelouze's researches; nevertheless, it appears to us clear that Pelouze was the real and actual inventor of the process for preparing gun-cotton. His tryman, M. Dumas, informs us that he even announced the discovery of applying these substances to the very purpose for which Schönbein has taken out a patent.

With respect to the process for preparing this substance, we found that the acid best adapted for the purpose, is that recommended by Pelouze. It is obtained by distilling ten parts of nitre with six of sulphuric acid; and it is, strictly speaking, acidum nitrico-nitrosum. The cotton wadding should be thoroughly steeped in this acid for about three minutes, then plunged into water, and washed under a current, until litmus paper is no longer reddened by the washings. The cotton should be well squeezed in a cloth—picked out and gently dried, before a fire.

It requires some time to dry a mass of it thoroughly; since porous material is very retentive of water. When at all dry, it burns slowly and without explosion. When dry it burns readily with a bright yellow flame, a feeble detonation, and leaves no residue. Compared with its bulk, its explosive properties do not appear remarkable; but when compared with its weight they are greater than those of gunpowder. The explosion is less rapid than that of the fulminating compounds of the alkalis; but more rapid than that of gunpowder. When well prepared it explodes at a very moderate heat (about 420 deg.), and sends off scarcely any visible smoke, and leaves no residue. This substance has a great advantage over gunpowder in the fact that even well prepared the whole of it is dissipated in gas—carbonic dioxide and nitrogen. With gunpowder there is always a residue of carbon and sulphuret of potassium,—the latter tending to corrode metal. Experiment only can determine the relative gas-producing powers of the two substances. The gun-cotton may be inflamed by gunpowder without igniting it. There is nothing extraordinary in this: hydrogen may be inflamed in contact with gunpowder without kindling it, and a small quantity of alcohol may be burnt over it with a like negative result. Gunpowder requires a great heat for its ignition, and unless one particle of the mass catches this temperature it does not explode. There can be no doubt that the gun-cotton explodes at a much lower temperature than gunpowder, and as percussion will produce the same effect of heat, it should be cautiously handled when thoroughly dry. It is altogether a remarkable substance; and may, upon trial, directly supersede gunpowder. Should this be the case, it may have the effect of rendering nitric acid cheaper and more abundant, since the employment of nitre for the manufacture of gunpowder would be no longer necessary.

We have prepared this substance with the strongest nitric acid, 1.52,—with the acid at 1.4, distilled as above stated, and with a mixture of nitric and sulphuric acids; but according to our experiments, the most certain and satisfactory process is that we have described. The cotton is undoubtedly highly oxygenised, and it may be worth inquiring, whether in a highly dried condition, it may not be liable, in masses, to spontaneous combustion. It might be hazardous to keep a large store of it completely dried. The presence of a very small quantity of moisture is sufficient to counteract its explosive properties; and as cotton from its porousness, is very hygroscopic, it will be proper to consider how far this property may interfere with its employment as a substitute for gunpowder. If it be true, as it is reported, that the government have ordered a hundred weight of this substance from Basle Switzerland, the cost of transport will far outweigh the cost of the materials. This quantity might have been made at Woolwich under the superintendence of M. Schönbein, and rendered for use at a small expense in the course of a few hours. In conclusion, we shall observe that although we think the merit of the discovery is due to M. Pelouze, yet M. Schönbein deserves credit for having at least called public attention to the subject. He has, however, been the involuntary means of making

the practical value of M. Pelouze's researches well known. His secret has transpired in spite of his attempt to conceal it. *Suum cuique.*—*Medical Gazette.*

## THE British American Journal.

MONTREAL, JANUARY 1, 1847.

### ECTROTIC TREATMENT OF SMALL-POX.

From the December number of the Philadelphia Medical Examiner, we extract the following recognition of Dr. Crawford's claim to priority in the employment of the tincture of iodine as an abortive in the eruptive stage of small-pox. While we take this opportunity of assuring Dr. Jackson, whose observations on this subject (copied in the last number of this Journal) drew our attention to the matter, that it was not our intention to impute to him a plagiarism, for we do not doubt their perfect originality as far as he is concerned, we would now further remark, that the treatment, as suggested by Dr. C., has been very frequently adopted in this city by several physicians. We have ourselves, both in public and private practice, repeatedly employed it, and watched its use in the hands of others. We have ourselves gone further—we have instituted, as Dr. Crawford also did, comparative trials between the iodine and nitrate of silver, and our testimony is decidedly in favour of the former, as a more certain and more manageable ectrotic. We notice these facts, to exhibit to our respected contemporary and his correspondent, that the practice is invested with no novelty here, and we regret that it made on Dr. Dunglison's mind an "impression" so little commensurate with its importance; for this, it will, we think, be conceded, neither Dr. Crawford nor ourselves can with any propriety be deemed responsible.

The imputation of want of courtesy towards Dr. Crawford, is easily disposed of. The circumstances of the case will be found to tell otherwise. Dr. Crawford's paper was published in the Montreal Medical Gazette in April, 1844. Our Journal was not "cast upon the waters" until April, 1845. We surely were not called upon to re-publish the papers which appeared in the former Journal, which ceased to exist in May, 1845; we had a right to presume, upon a more extended interchange and editorial intercourse, than it would appear that journal actually possessed, especially with the leading periodicals of the United States and Great Britain; this limited interchange cannot, however, be laid

6, puis ensuite dans l'eau, la xyloïdine formée aux dépens d'une partie des membranes végétales, reste interposée et rend le papier la toile imperméable à l'eau, et beaucoup plus combustibles, propriétés qui ont suggéré à M. Pelouze l'idée d'appliquer ces enveloppes à la confection des gargousses pour l'artillerie.

† In two experiments since made with a mercurial bath, gun-cotton exploded at 425 deg.; but gunpowder did not explode until the thermometer rose to 545 deg.

against us as a fault, nor with any greater fairness can its consequences, of which this present case is one. We have, on the first occasion which has presented itself, endeavored to remedy the latter by the only method in our power, and in acting as we have done, we are at a loss to conceive wherein we have exhibited a want of "courtesy" towards Dr. Crawford, whose claims to priority we have been advocating.

We think it proper, in connection with this subject, to give insertion in our *Periscope* to a second letter from the pen of Dr. Crawford on the same topic, which appeared in the tenth number of the *Montreal Medical Gazette*, and which will be found to embody the results of further experience.

#### ECTROTIC TREATMENT OF SMALL-POX.

Our readers will remember, that in the August number of the *Examiner* we published some observations on the "Ectrotic treatment of small-pox by tincture of Iodine," from the pen of our much respected townsman, Dr. Samuel Jackson, late of Northumberland. In the last number of the "*British American Journal of Medical and Physical Science*," published at Montreal, (to the well stored pages of which we are frequently indebted for valuable articles, published in our *Record*,) the article is copied, with a claim of priority in that mode of treatment for Dr. Crawford, of Montreal. Dr. Crawford's paper is republished by our contemporary, and bears date at Montreal, March 15, 1844, and of course takes precedence of the published observations of our townsman; nevertheless, no one who knows Dr. Jackson will suppose for a moment that he had the least knowledge that Dr. Crawford or any one else had preceded him, or he would have taken pleasure in awarding to him the fullest credit. Dr. Dunglison, through whom Dr. Jackson's paper came to us, had seen the "*Montreal Gazette*," and made a note of Dr. C.'s observations, but did not deem it necessary to mention the circumstance. That no intention, however, existed on his part to withhold from our Canadian brother the credit due to him, is apparent from the fact, that his paper is expressly referred to and the date given, in the last edition of Dr. D.'s "*New Remedies*," under the head of "Iodine," page 491, as follows; "Dr. Crawford, of Montreal, tried the comparative merits of tincture of iodine, and nitrate of silver, (in variola,) and gives the preference to the former. He found the application very manageable and very bearable." Having shown our contemporary's remarks to Dr. Jackson, he has sent us the following Card, which we have much pleasure in publishing; and in order to do full justice to Dr. Crawford, as well as for the sake of the valuable remarks which it contains, we have likewise transferred his paper to our *Record*.

"Dr. Jackson begs leave to state, that he never saw the '*Montreal Medical Gazette*,' and that he never heard of it till to-day; that it was never known to one of the learned editors of this city; that in April, 1845, he took Drs. Nancrede and Bond to see his case of small-pox aborted by tincture of iodine; that neither of these, nor one of many others to whom he mentioned the subject, had heard of this medication; that he proposed to several physicians to repeat the experiment, which they did not, except Drs. Goddard and Sargeant; that for himself, he saw during the late epidemic only a few cases of mild varioloid, in which it was not important to experiment; that he is surprised to find, that of all the numerous periodicals of America and England, not one, as he believes, has noticed Dr. Crawford's

experiments; surprised too that the editors of the '*British American Journal*,' his fellow citizens, should have withheld this courtesy; that though the small-pox has prevailed as an epidemic in New York, Baltimore, and Philadelphia, since the publication of Dr. Crawford, and every ectrotic was tried, no intimation of Dr. Crawford's paper got abroad in these places, that hence he has reason to hope that the editors of the *British American Journal* will not accuse him of appropriating Dr. C.'s labors; that he, Dr. Jackson, most cheerfully accords the priority of the experiment to Dr. C., on the authority of the *British American Journal*; that he is thankful to Dr. C. for having made more decisive experiments than his own; that he should not have published his solitary case, had not professor Dunglison requested him to do so, that he might have it to refer to in the fifth edition of his *New Remedies*, which was then in the press; that some time after he had given his paper to Dr. Dunglison, and after it was printed, the Dr. spoke of Dr. Crawford's experiments, but he had lost the journal in which they were printed, having merely retained a memorandum; that the experiments of Dr. C. could not have made a strong impression on Dr. Dunglison, for he neither practised them in our late epidemic nor taught them to others; that he, Dr. Dunglison, never heard of Dr. C.'s experiments till his own was printed; that even Dr. Dunglison never saw more than one number of the *Montreal Medical Gazette*, and that the omnivorous editor of the *American Journal of the Medical Sciences* says, 'I saw it mentioned in a Boston paper, and this is all that I ever heard of it.' '*O curas hominum, O quantum est in rebus inane!*'"  
—*Medical Examiner*, December 1846.

#### DEATH FROM LAUDANUM AT THE MONTREAL GENERAL HOSPITAL.

*Coroner's Inquest*—An inquest before Joseph Jones Esq., Her Majesty's Coroner for the District of Montreal, was held, on Thursday last, the 10th, and by adjournment on Friday, the 11th ult., at the Montreal General Hospital, on the body of Alexander Campbell, aged 32, a seaman, who died that morning from the effects of an over-dose of laudanum, accidentally administered to him in place of wine, by another of the patients. The facts disclosed at the inquest, indicate, in the strongest manner possible, the urgent necessity of a reform in the mode in which the medicines are dispensed in the institution, while we have not the slightest doubt, that the possibility of a similar occurrence will be for the future most carefully guarded against by the adoption of the proper and obvious precautions. We publish the case, however, as an instructive warning to all institutions of a similar kind elsewhere. It is the first mistake attended with fatal consequences which has occurred in the Hospital since its establishment, a period of about twenty-four years, during which about 40,000 in-door patients have received the benefit of medical treatment in it. This fact is announced, but not urged in extenuation of the error, which has been attended with such lamentable results on the present occasion.

The conduct of the Coroner throughout the investi-

gation, entitles that gentleman to great praise; we have heard it spoken of in high terms by a member of the jury empanelled for the occasion. The case was obviously one of great moment, and involved considerations of the highest importance to the community. It was conducted not only with a due regard to the interests of the public and the Hospital, but with strict fidelity as regards the discharge of his own important, and very often most unpleasant, duties.

The following Jury was sworn:—

William Kingsford, *Foreman*: Joseph Brown, William Brown, John Marlow, George Collins, Edward Ferns, James Conroy, David Irwin, James Clandinen, Edward Clement, Jacques Desautelles, Theodore Gibeau, François Jollicœur, Alexander Campbell.

After the Jury had viewed the body, the following witnesses were examined:—

Alexander Long, M.D., sworn.—I am a Doctor in Medicine; I am House Surgeon of the Hospital. Alexander Campbell, the deceased, had been in the Hospital several weeks. He had an affection of the knee joint; he was in the Richardson Wing, Ward 12; the whole wing is under the charge of Doctor Crawford, who prescribed for him. The medicines which were ordered for this wing were prepared and dispensed by Dr. Gibb, of the Hospital. This is the general rule, some being purchased already prepared. I do not know exactly what medicines were prescribed for this patient. It is not my duty to interfere in the wing, except in cases of operations; or if any complaint is made to me on my visit at night, I attend to it. In this case, I knew nothing of what had been ordered, until I was informed of the circumstance of his having swallowed laudanum. About eleven o'clock, I was informed that one of the patients had taken some drops, and that they were making a noise in the ward, and wanted me to go up and see. The orderly told me; I went up stairs immediately. I spoke to the patient, who was quite sensible; he told me himself that he had just awoke out of his sleep, and that he wanted some wine, and had got something else. He did not say who had given it. When I was told this, I went and examined the bottle where the wine was, and there was an empty bottle beside it; I smelt it, and poured some drops, which were in the bottom, into my hand, and smelt them; I found that it was laudanum; I inquired how much he had taken, and from the quantity pointed out by patients in the ward, I thought it was about an ounce. They showed me what depth the liquid had been in the bottle. I immediately came down to the Surgery, and prepared half a drachm of sulphate of zinc; while preparing it, I sent for the nurse, and she administered the emetic. Dr. Crawford shortly after came in, to whom I communicated the circumstance. When we went up stairs, the nurse was giving hot water to the deceased, who was vomiting freely. I was then obliged to leave to attend to other duties. Dr. Gibb attended him till the afternoon; in the afternoon, Drs. Crawford and Gibb, and myself, applied the stomach pump. I saw him frequently during the evening; he partook of coffee, vinegar, and warm water, and also a little brandy; some ammonia was also used; the two latter were used later in the evening, owing to the pulse being low; these liquids were partly administered by stomach-pump, and partly by spoon. Dr. Gibb attended him until twenty-five minutes to two, when the man appeared better. I took his place until six o'clock, when the man died. The system adopted in the Hospital is, that when the physician prescribes, the apothecary prepares the medicines for the wing, and the house surgeon for the main body of the Hospital. The medicines are then delivered to the nurses with the requisite instructions, who have charge of them; lotions are laid in various parts of the room; but the medicines which are taken internally, are left upon a table, under charge of the nurse; mixtures, which are dangerous, owing to their being compounds of poison, are not left within reach of a patient, but are placed on a table by the nurses. The rules of the Hospital are to this effect. The rules were not observed in this instance; the bottle was on the same table as the wine; the wine bottle and the other bottle were both of the same size—viz. six or eight ounces. The wine bottle had the man's name marked,

with the quantity prescribed. There was no label of any kind on the laudanum bottle. Sometimes we send laudanum bottles with a label, sometimes not. If we have an old and experienced nurse, we give merely verbal instructions; if a new nurse, unaccustomed to the Hospital, we label it. The nurse has been perhaps three years here. The bottles were on a table close to the bed of deceased; it divides, in fact, his bed from the adjoining one. The deceased was confined to his bed. The rule of the Hospital is, that the nurse should wait upon all the patients; but there is a regulation existing that convalescent patients must assist the nurse; it was, therefore, so in this case: the deceased was labouring under a painful disease, and it perhaps might have broken his spirits, but I do not think that his mental faculties had been affected. The laudanum was given by one of the patients in the ward; I only know his name by hearsay.

Louis Boyer, M.D., sworn.—I am a resident in Montreal; I have studied in France and Ireland; the names of the Hospitals in Paris were Hotel Dieu, Charité, Saint Louis, Hôpital des Enfants, &c.; and in Dublin, the Lying-in-Hospitals in Great Britain Street. The custom generally is for the physicians to prescribe the medicines; the apothecary prepares them, and delivers them to the nurse, who administers them to the patients. The prescriptions are labelled on the bottle, with the quantity to be taken; I never saw a bottle labelled "poison" either at Paris or Dublin; great care, however, ought to be taken, and is taken, to keep it out of the way of the patients. I have never seen four drachms of laudanum in a ward; never knew an instance of a bottle containing laudanum left by the bed of a patient; in fact, I never saw a bottle contain more than two drachms.

Edward Quincy Sewell, M.D., sworn.—I have studied in Hospitals in Edinburgh, Paris, and New York—at the former place, the Infirmary; in Paris, l'Hotel Dieu and La Charité; and in New York, the City Hospital. As far as I could observe in these Hospitals, the usual way was for the Doctor to prescribe and the apothecary to make up the medicines, who gave them to the nurse. When the ward was very large, it was impossible for the nurse to attend to every patient, and she was assisted by the convalescent. I have seen bottles without labels, but the general system is to mark them with the prescription and the man's name. You sometimes see bottles without labels; they generally label poisonous drugs with the name. Active medicines are given to the nurse's particular charge. She might have a particular place to put it, without a label being necessary. I should say that they generally remove these poisons out of the reach of the patient. I never knew an instance of an ounce of laudanum being left by the bedside of a patient, without a label. The general quantity put into a bottle, I should say, is about a couple of drachms.

The inquest was adjourned to the following day at 10 o'clock. On Friday morning the examination of witnesses was resumed.

George Duncan Gibb, M.D., sworn.—The deceased, Alexander Campbell, was admitted as a patient 4th November last; his disease was white swelling, with afterwards, great suppuration. After he had been in some time he was so weak that he was forced to be supported with wine. On the 7th December, he complained of acute pain and loss of sleep at night. The attendant Physician Dr. Crawford, ordered as an anodyne, twenty-five drops tincture of opium, every night. On that day I gave the nurse about half an ounce of laudanum, with instruction to administer twenty-five drops every evening. On the morning of the 9th, Dr. Crawford and myself went into the ward about a quarter past eleven. We were told when coming up the stairs, that the deceased had taken laudanum. Dr. Long told us, and added, that he had given him an emetic. When we entered the ward we found the deceased vomiting freely, and the nurse giving him hot water. The attending physician, Dr. Crawford, recommended the treatment to be continued, and went his round of the Hospital. The fluid vomited, partook of the smell of laudanum. At the time the man was vomiting he had none of the actual symptoms of having taken poison. It was presumed that the case would do well. After the visit was over, about 1 o'clock: I was then informed by the matron that the patient was "very low." I immediately went up stairs and saw the man suffering from all the symptoms usually observed in taking laudanum. I found him exceedingly stupid and drowsy. His pupils were very much contracted and his eyes were turned upwards. Among many other symptoms not necessary to relate, he had the dead rattle in his throat. I



lost no time in applying the usual remedies, with the advice of Dr. G. W. Campbell and Dr. Long. By about half-past two P. M., the man was much better. We went down for Dr. Crawford, who came up at half-past three, P. M. Upon his arrival the stomach pump was used to inject a quantity of coffee—vinegar—ammonia and brandy at times, and when the Doctor left, the man appeared much easier, but still drowsy. He got worse towards night; I spoke to the attendant physician, who directed me to keep two men sitting up with him and to sit up myself. At twelve o'clock, at night I looked upon the case with despair, and I saw no hope for the deceased. At two o'clock, A. M., the deceased was much improved; he was lying on his right side with his right hand under the head in a gentle dose. He appeared to be doing well. His pupils were more dilated. I then called the house surgeon, who took charge of the case for the rest of the night. After this I went to my room. About half-past five, I was told by the man who made the fire in my room that the deceased was almost well. But at eight o'clock I heard he was dead. I am the apothecary of the Hospital. The house surgeon and myself go round the Hospital with the attendant physician. The house surgeon in the body; myself in the wing. The physician gives the prescriptions, which each prepares for his own department. We have all the nurses in the surgery, and give them medicines, with the necessary directions. When there is more than an ordinary number, the prescriptions are written on the label of each bottle or packet. Generally speaking, we only give verbal directions. When, however, we use poison, we always tell the nurse. These are the rules which are observed. The nurses proceed up stairs to administer the remedies. If they are ordinary medicines, they are put on the table by the bed of the patient. When there is laudanum or other poison, the nurses have instructions to keep them separate. When I gave the laudanum to the nurse, Susan, in this case, I particularly enjoined her to be careful. The day I saw the bottle in which the laudanum was, on the table, by the bed of the deceased, was after he was poisoned, I did not see it before. There was no label on it, I think the man must have taken three drachms for the reason, that there were fifty drops taken out previously and ten drops adhered to the bottle. I put in originally half an ounce. The nurse has been in the Hospital more than two years, for I have been here that time myself. She was one of our best nurses, careful, industrious, attentive, and with an excellent memory. The name of the man who gave the fluid was Halloran. I never give wine out at all, except, I may add, in cases of necessity, when the matron cannot be asked. The matron gives out the wine. The bottles which I saw on the table were alike, but I cannot say positively. I think so. The wine bottle was labelled. I think three drachms of laudanum with a healthy man, who received the remedies which the deceased received, would not have been sufficient to cause death. The deceased was very weak. The nurse gets the wine from the matron. I had no opportunity of seeing the bottle of wine before it was taken up stairs. I have often given laudanum to that nurse, and I never omitted to give her the requisite instructions. I generally give it in a two ounce phial, and the nurse attaches it to a nail above the patients bed. I gave the laudanum forty-seven hours before the accident occurred. I did not see the laudanum between the period that I gave it to the nurse, and after I saw the empty bottle. I inspect the ward morning and evening. I made no inquiries about the laudanum. I spoke to the deceased three times within each of these two days. I observed bottles at this time on the table: I had such confidence in the nurse that I did not think it necessary to enquire about the laudanum. I dare say within the two years I have given the nurse laudanum fifty times. I think sometimes the bottle has been labelled: generally not. It is possible that I may have given laudanum to the nurse twice before, in an eight ounce bottle: I cannot say positively. I generally give it in a two ounce phial. When giving her the laudanum, I think I told her to put it into a phial: I cannot swear it. From the benumbing influence of the poison, I do not think the man suffered much. At this moment I cannot recollect any mistake in the administration of medicines within the last two years. I speak this without equivocation.

Susan Oliver sworn:—I am unmarried: I have been four years in Canada: I have been nearly two years in the Hospital as nurse; I came in as a patient: I have been in wards 11 and 12, in the Richardson Wing: I cannot remember how long Campbell has been in the Hospital: I receive the medicines in the Surgery;

I have done so often for the deceased, from Dr. Gibb; I get instructions at the same time; sometimes the directions are written, sometimes not; I received some laudanum; I only recollect having received laudanum but once, from Dr. Gibb, for the deceased. The directions given me were, that I was to give twenty-five drops every night; I received it two days before the death of deceased, and I gave him twenty-five drops every night for two nights; I cannot say how much was in the bottle; the quantity looked small; I have sometimes to go down for water, and other purposes. On Wednesday, the 9th instant, about eleven o'clock, I left the ward with my vessels, and went down for water; I availed myself of this opportunity to go to my sleeping room to put on a gown. While I was there, Dr. Long sent for me to bring up some hot water; I went up stairs immediately, and Dr. Long asked me if I knew what had happened, that the man had taken poison. He gave me an emetic to administer to the man, I gave it him, and also a quantity of hot water. A good deal was done; a stomach-pump was applied. Dr. Crawford came with it himself. The laudanum bottle was on the table by the bed of the deceased. There was another bottle containing port-wine and one with some quinine, three altogether. The wine was to be given when he asked for it. The patients who are not sick assist me in doing work; and if I am busy, and a man confined to bed asks for anything, they would give it; such as a drink; I do not know of a patient giving medicine to another; but drinks are often so given; for instance, if anything is warming on the stove; I am not sure whether I ever saw wine taken off a table and given to a sick person. The man who gave the laudanum, I was told in the ward, was Halloran; he has sore eyes. One is very bad, the other is not so bad; I never heard deceased say he wished he would die. He suffered a great deal, for he was very feeble: I have received laudanum frequently from Dr. Gibb. Sometimes I get it in a little bottle, and always keep it hung up. On this occasion I did not hang it up: I do not remember receiving instructions to put this particular laudanum in a phial. Sick people in a ward are always willing to assist each other. The man Halloran was very kind in attending to deceased. My impression is, that he gave it by mistake; I was speaking to the deceased a little before his death; I was up all night with him: I asked him if he knew what he had taken. He said he did know. He said, it is well I got better, that it did not kill me. This was a few minutes before his death. He did not blame the man for giving the laudanum. The doctor did not tell me to put the laudanum away. He is in the habit of telling me, and I am always in the habit of doing it. The patient took the hot water willingly after the emetic. He appeared to know his danger, and seemed somewhat frightened, and even put his finger down his throat to assist the vomiting: I was never aware that laudanum was rank poison; I knew it was dangerous too much of it. The doctor has often given me instructions to be careful. He has so often given them me, that I was always careful, in not giving a drop too much. In measuring it, if I made a mistake, I poured back the liquid in the bottle, and measured it over again. Nobody in the ward besides deceased was taking the laudanum; I thought it was safe to put it on the table, because the other bed adjoining was unoccupied. To the best of my knowledge I never received laudanum in such a bottle before; I never put a phial on a table: it was always put on a string, and hung up to a nail; I did not forget laudanum was in the bottle, because I had twice given the deceased some drops. We do not look upon wine exactly as medicine; and, therefore, I did not think it wrong for one patient to assist the other with wine; I have received more laudanum in a less bottle than was in the large bottle.

[At the request of the Jury, the three bottles were sent for and examined. They were all eight ounce bottles. The wine bottle had a label; the laudanum bottle was without a label.]

William Halloran, sworn.—I have been in the Hospital since the 2d day of November. I have sore eyes. I cannot distinguish any person across the room. I was in the same ward as Campbell. I am in the habit of assisting the other patients when the nurse is absent. On Wednesday morning last, the deceased said to me, "William, give me my wine." I got up and went to the table, and asked him where it was, meaning which bottle. I was then at the table, and I could not see. He turned round in the bed, and, pointing to a bottle, said, "there it is." I gave the bottle to which he pointed, and he took a draught; he then took another and finished it. He took it in two drinks. He gave it



to me and I put it on the table. In a few minutes afterwards he said, "My God, I have taken the drops instead of the wine," and he begged somebody to go down and ask the Doctor if any accident would happen. I have often heard the deceased say that he was suffering greatly. I have often done much to assist him. I have never heard him say, "*I wish I was dead.*" I knew nothing about the bottles or the contents of them.

James Crawford, M.D.—I attended the Richardson Wing of the Hospital in my capacity as physician. In ward No. 12 there was a man named Campbell. On the 7th inst., I ordered him a composing draught at night, which was to consist principally of laudanum. The quantities are marked in the book of the apothecary. Wine was also ordered for the patient, quinine also. These medicines were necessary to obtain sleep for the deceased. I saw the deceased after he had taken the laudanum. An emetic had very properly been administered, which was acting satisfactorily. I did not anticipate, from the small quantity which I had been informed had been taken, and from the effects of the emetic, that any bad consequences would result. I saw him again at three o'clock. He was then labouring under the narcotic effects of opium. The stomach pump was used, both to inject and eject, and to administer the requisite medicines. I think, if the man had been in health, he would have recovered. But the preceding evening to his demise, I anticipated the effects would be fatal, on account of his weakness. We could not make him walk about, as is usual in such cases, on account of his knee. I have seen much worse cases recover. Directions ought to be put on all bottles containing medicine. It was not my order that a certain quantity of laudanum should be put in a bottle. When I order twenty-five drops of laudanum, that quantity only should be taken up stairs each night. I mean that if the apothecary mixed six times twenty-five drops, with six spoons of water, he would have done right. I never anticipated that half an ounce of laudanum should be given to the nurse to dispense. I believe that there is no rule affecting this matter. I never knew a rule existing in any Hospital except in Military Hospitals. Had I ordered the quantity of laudanum which was put in the bottle, I would have directed that it should be mixed with water, and the particular dose marked. All bottles containing medicines should be so marked, that the dose, and the person for whom it is intended, should be known. It is the duty of the apothecary, in all cases to mix the draught himself, except in cases where he sends up the number of drops prescribed for one draught unmixed. I have never had occasion to find fault with the nurse, Susan Oliver. I consider her attentive and careful.

Jane Tweedie, sworn.—I am unmarried. I am a night nurse. I make rounds of the whole hospital. I was with deceased occasionally during the night, before he died. Towards morning he spoke to me. I heard him say twice, "I had my mind made up." He died within a quarter of an hour. He was in his senses. He looked me full in the face from the pillow; I stooped down, I was so glad to hear him speak. These were his last words.

Alexander Long, M.D., sworn—re-examined.—The deceased told me, that he got up from his sleep and asked for some wine. A person might have taken the poison in place of wine, even taking two draughts. Thinking it was port wine, and his mouth being parched, the deceased might have done so. It is impossible to give a direct answer, but I should say that a man awakening from sleep has not a proper sense of taste.

Angus McDonnell sworn.—I am a student of medicine. I am in the habit of visiting the Hospital. I often saw Alexander Campbell. I come every day. I sometimes speak to the patients.—The deceased spoke to me about two days before his death. I remarked to him that his leg was more swollen than it was before. He asked me if I thought his leg would get any better. I said that I could give no information. He said that if he had to get his leg amputated that he would rather poison himself. I made no reply. I did not think it was any thing serious. I took no further notice of it. I said nothing to the nurse or doctor.

The Jury remained in deliberation for upwards of an hour and a half, at the expiration of which time they returned the following verdict:—

That the deceased died from the effects of laudanum, improperly and through ignorance of its nature, administered to him, by William Halloran in the belief that the bottle contained port wine. In rendering this verdict, the Jury feel it their duty to remark upon the great want of caution evinced, in leaving so large

a quantity as half an ounce of laudanum within reach of a patient. And as it appears from the evidence, that no regulation exists in the Hospital, on the method of dispensing medicines, they conceive themselves bound to recommend the adoption of such whole some rules for the proper labelling of bottles containing poisonous fluid, and otherwise, as may prevent such fatal mistakes for the future.—*From the Times Newspaper.*

#### FEES AT CORONERS' INQUESTS.

The subject matter of the following communication which we have received, is one of great moment to the profession of Canada West; and we think they ought to adopt some immediate steps to obtain such an amendment of the Act, 9 Vic. cap. 58, as will rectify the oversight, for we can hardly look upon it in any other light. While the fact cannot be disputed, and is everywhere recognised, that the most important evidence at Coroners' Inquests, is furnished by the medical witnesses, and that this testimony must be based, in the majority of cases, upon the evidences revealed by dissection, the value of which is to be decided by the utmost nicety of scientific discrimination, it can hardly be supposed that such services could, or ought to be obtained without ample remuneration. The case is otherwise, however, in Canada West, as any one may perceive who refers to the Act passed at the last session of the Legislature; but we apprehend it to be rather a fault of omission than one of commission on their part. A proper representation would, we doubt not, be attended with good effect.

A similar case of difficulty has occurred, in the Dalhousie District, in which a like charge, allowed however by the auditors, has been objected to by the Government, in consequence of not having been provided for in the Act. The whole matter, however, is "*en delibere*" by the Executive Council. We are at a loss to conceive how these charges can in the meanwhile be paid out of the public funds of the Province, as no provision whatever is made for them in the Act referred to already. They have always hitherto been defrayed out of the local District funds, against which, we apprehend, they should still be charged, until an alteration of the Act, to include them as items against the public funds of the Province be made, to the defrayment of which these funds are more legitimately applicable.

To the Editor of the British American Journal.

SIR,—You will perhaps have the kindness to bring before the public a matter of no small importance to the community generally, as well as to the Faculty in Canada West.

At the last meeting of the Quarter Sessions for this District, two accounts of medical men, for attendance and holding *post mortem* examinations at inquests, were presented, duly authenticated, for payment, when the auditors appointed by the Government for examination of the District accounts, although admitting the correctness of the claims, declared that they could not be paid.

It appears that in the Act passed at the last meeting of the Legislature, 9th Victoria, cap. 58, p. 917, of the Provincial Statutes, being for the payment of expenses incurred in the administration of Justice in Canada West, a schedule is given of items chargeable upon the revenues of the Province; among the number are enumerated the fees of the coroner who holds the inquest, and the bailiff who summons the Jury! while the surgeon, who really performs the most important part, is omitted.

It is not very probable that a surgeon will take the trouble of making examinations requiring the greatest nicety of judgment, and often much disagreeable labour, without remuneration. Surely the public will not submit to be deprived of what is frequently the most important testimony in criminal cases, where the lives of fellow-subjects are involved, because, forsooth, our sage legislators consider it of more importance to have the services of the bailiff, who delivers a few summonses, than to have the attendance and judgment of an intelligent medical man, who, in many cases, can alone determine the guilt or innocence of a party.

THOS. REYNOLDS, M.D.

Brockville, Dec., 1846.

**The Beauport Asylum for the Insane.**—This institution, in the neighborhood of the city of Quebec, progresses favorably in public estimation. The number of patients at present in it amount to 122; and there have been discharged from it, during the fourteen months since its establishment, twenty-seven, who were either cured or greatly relieved. In the absence of statistical documents, or any authentic statement of its operations, we are not able to furnish any more explicit information. The economical arrangements of the establishment are excellent, and the various varieties of moral treatment, which constitutes so striking a feature in the modern management of the insane, are here called into requisition. One thing is still wanting, however, to render the institution complete, namely, a resident physician, and this addition to its medical staff is the more required, when we consider the distance of the asylum from the city, some five or six miles, if we mistake not, and the probable difficulty which might be experienced in obtaining the assistance of one of the regular medical attendants in cases of emergency. This desideratum we believe it is intended to supply, at as early a period as possible; some steps have, we are informed, been already taken with this object in view.

**Law Report.**—We are indebted to a legal friend for the following report of a case recently decided in the Court of Queen's Bench. Having promised us his able assistance, we will be enabled to keep our readers supplied with authentic information on these points of interest, although we must plead guilty to entertaining the hope, that the occasions for them may be few and far between.

**Law Report.**—*Montreal, Q. B. Inferior Term, 4th Dec. 1846.*  
**Dykeman, Q. T. Plaintiff, vs. Force, Defendant.**—Action by plaintiff, a medical practitioner, against defendant, a country store keeper, for selling medicines, to wit, senna, pink root, epsom salts, and castor oil, without a license, contrary to the ordinance. Proof was made last term of defendant's having sold the articles.

To-day Rolland J. rendered judgment. The learned judge remarked, that, in a vast country like Canada, it would be most mischievous if none but a doctor, or apothecary could sell such things as defendant had: that in practice, all store keepers in the country sold such things, which were, in fact, of use otherwise than as medicines: that castor oil might be used instead of olive for many purposes, and *vice versa*: that the law, prohibiting selling medicines, entails the penalty rather on persons acting as medical practitioners or advisers, than

on persons merely selling, for there is no express penalty attached to selling only; the words being, "Every person acting in any of the professions aforesaid, without license, shall forfeit," et c. Action dismissed, with costs.

**Meeting of Montreal Medical Board.**—At a meeting of the Medical Board for the district of Montreal, held at the Court-house, on the 4th and 5th of November last, the following gentlemen received certificates for license to practise as physicians, surgeons, etc.:—

Alfred Malhiot, M. D.; John W. Wilsam, M. D.; Geo. D. Gibb, M. D.; Henri Paradis, M. D.; P. D. Moffat, M. R. C. S. L.; A. C. Lloyd; Edward Bull; Panteleon Cadieux; C. E. N. Courteau; Samuel David; Charles Brown.

#### NOTICE TO SUBSCRIBERS.

We beg to announce to our subscribers, that two collectors, Mr. Cherrier and Mr. Gemmil, will shortly leave this city, the former on a tour through Canada East, and the latter through Canada West, and will wait upon them, as far as practicable, individually. A very large amount, when collectively considered, is now due to the journal, which it is a matter of importance should be early received. We earnestly call the attention of our supporters to the circumstance; and if, from unbiassed testimony, our journal be worthy of the annual subscription demanded for it—a sum barely adequate to meet the publisher's expenses—we trust that the call upon them will be promptly responded to.

#### NOTICE TO CORRESPONDENTS.

Communications have been received from Dr Evans (Richmond), C. W.; Dr. Sewell (Quebec); and from Dr. Gruesett (Toronto). Dr. Sewell's paper will appear in the ensuing number; with some others which now lay on our table. They are for the present excluded, from having reached us some days after the original matter for this number had been placed in the hands of the publisher, that department of the Journal having been "made up" this month earlier than usual.

We take this opportunity of acknowledging the reception of Professor Croft's letter (Toronto), received in the early part of last month. Nothing further has yet come to hand. Prof. C will understand our meaning.

Letters are hereby acknowledged, with enclosures, from Dr. McIntyre (Williamstown); Dr. Gilbert (Hatley); and through Messrs. Lyman & Knieshaw, Toronto, from Drs. Hodden and Bettridge.

#### BOOKS, &c., RECEIVED DURING THE MONTH.

Boston Medical and Surgical Journal. December 2, 9, 16, 25.  
The Medical Examiner. December.  
The St. Louis Medical and Surgical Journal. November.  
Southern Medical and Surgical Journal. December.  
New Orleans Medical and Surgical Journal. November.  
Provincial Medical and Surgical Journal. November 4, 11.  
Dublin Medical Press. November 4, 11, 25. December 2.  
Hydropathy or the Water Cure. From the British and Foreign Medical Review. By John Forbes, M.D., Philadelphia.  
The Medical News and Library. December.  
Summary of the Transactions of the College of Physicians of Philadelphia, from September to November, 1846, inclusive.  
Buffalo Medical Journal. December.  
Missouri Medical Journal. December.  
The Dublin Quarterly Journal of Medical Science, August 1846.

☐ The New York Medical and Surgical Reporter has not come to hand lately.

**Erratum.**—In last number, page 204, line 32, for "lateral sinuses" read "lateral ventricles."

# **BILL OF MORTALITY for the CITY OF MONTREAL, for the month ending NOVEMBER 30, 1846.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,	Measles,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Small Pox,	1	2	3	1	1	1	1	1	1	1	1	1	1	1
	Fever,	7	12	19	5	3	5	1	1	1	1	1	1	1	1
	Hydrocephalus,	2	1	3	1	1	1	1	1	1	1	1	1	1	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,	Dentition,	4	1	5	3	2	1	1	1	1	1	1	1	1	1
	Convulsions,	4	1	5	4	1	1	1	1	1	1	1	1	1	1
	Paralysis,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Apoplexy,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
DISEASES OF RESPIRATORY ORGANS,	Consumption,	13	22	35	8	1	1	1	1	5	10	6	3	1	1
DISEASES OF ABDOMINAL VISCERA,	Diarrhœa,	1	2	3	1	1	1	1	1	1	1	1	1	1	1
	Dysentery,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Dropsy,	1	2	3	1	1	1	1	1	1	1	1	1	1	1
	Inflammation,	10	5	15	3	4	1	1	1	1	1	1	1	1	1
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,	Sudden Death,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Debility,	1	4	5	1	1	1	1	1	1	1	1	1	1	1
	Drowned,	2	1	3	1	1	1	1	1	1	1	1	1	1	1
	Still-born,	6	1	7	1	1	1	1	1	1	1	1	1	1	1
	Unknown,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Burn,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Abscess,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Accidental,	1	1	2	1	1	1	1	1	1	1	1	1	1	1
Total,		55	59	114	26	12	9	5	3	11	14	8	6	7	3

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR NOVEMBER 1846.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+30	+45	+41	+37.5	30.66	30.54	30.45	30.55	E. N. E.	E. N. E.	E. N. E.	Fair	Fair	Rain
2,	" 40	" 50	" 45	" 45—	30.35	30.25	30.18	30.59	E. N. E.	E. N. E.	S. E.	Fair	Fair	Rain
3,	" 50	" 65	" 55	" 57.5	30.16	30.13	30.13	30.14	S. E. by E.	S.	S. S. W.	Fair	Fair	Fair
4,	" 51	" 56	" 43	" 53.5	30.21	30.25	30.41	30.29	W. by S.	W. by S.	W.	Fair	Fair	Fair
5,	" 34	" 54	" 47	" 44—	30.50	30.43	30.44	30.46	W.	W.	W.	Fair	Fair	Fair
6,	" 33	" 51	" 39	" 42—	30.48	30.49	30.37	30.45	W.	W.	W.	Foggy	Fair	Fair
7,	" 31	" 52	" 40	" 41.5	30.37	30.39	30.27	30.34	W.	W.	W.	Foggy	Fair	Fair
8,	" 30	" 48	" 40	" 39—	30.25	30.20	30.16	30.20	W.	W.	W.	Fair	Fair	Fair
9,	" 39	" 45	" 43	" 42—	30.15	30.18	30.12	30.15	W. N. W.	W. N. W.	NW by W.	Rain	Rain	Rain
10,	" 42	" 49	" 47	" 45.5	30.16	30.13	30.14	30.14	N. W.	N. W.	N. W.	Rain	Rain	Rain
11,	" 45	" 53	" 47	" 49—	30.12	30.19	30.15	30.15	N. W.	N. W.	N. W.	Rain	Rain	Rain
12,	" 42	" 51	" 42	" 46.5	30.24	30.27	30.27	30.36	N.	N. E.	E.	Cloudy	Fair	Fair
13,	" 31	" 48	" 33	" 39.5	30.30	30.24	30.26	30.27	E. N. E.	N. E.	N E by E.	Fair	Fair	Fair
14,	" 29	" 46	" 35	" 37.5	30.27	30.29	30.23	30.26	N E by E.	N E by E.	N E by E.	Fair	Fair	Fair
15,	" 33	" 42	" 38	" 37.5	30.20	30.17	30.16	30.18	N E by E.	N E by E.	N E by E.	Fair	Fair	Fair
16,	" 35	" 46	" 37	" 40.5	30.20	30.21	30.28	30.23	N E by E.	N E by E.	N E by E.	Fair	Fair	Fair
17,	" 30	" 37	" 35	" 33.5	30.32	30.13	30.14	30.20	N E by E.	N E by E.	N E by E.	Foggy	Foggy	Fair
18,	" 33	" 50	" 45	" 41.5	30.05	29.94	29.92	29.97	S. E.	S. E.	S. E.	Foggy	Fair	Fair
19,	" 43	" 47	" 42	" 45—	29.86	29.69	29.39	29.65	W. by S.	N. W.	N. W.	Rain	Rain	Rain
20,	" 35	" 34	" 32	" 34.5	29.05	29.34	29.65	29.35	N. W.	N. W.	W. N. W.	Sleet	Snow	Cloudy
21,	" 29	" 41	" 37	" 35—	29.80	29.78	29.73	29.77	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
22,	" 35	" 40	" 38	" 37.5	29.60	29.54	29.50	29.55	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
23,	" 34	" 37	" 26	" 35.5	29.60	29.66	29.84	29.70	W.	W.	N. W.	Fair	Fair	Fair
24,	" 23	" 30	" 23	" 26.5	29.77	29.79	29.73	29.76	N. W.	N. W.	N. W.	Fair	Fair	Fair
25,	" 18	" 22	" 20	" 20—	29.68	29.57	29.24	29.50	N. W.	N. W.	N. W.	Fair	Cloudy	Snow
26,	" 17	" 20	" 22	" 18.5	29.12	29.21	29.36	29.23	W. N. W.	W.	W.	Fair	Fair	Fair
27,	" 24	" 36	" 30	" 30—	29.65	29.77	29.83	29.75	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
28,	" 31	" 33	" 32	" 32—	29.80	29.81	29.89	29.83	S. W.	S. W.	S. W.	Snow	Snow	Fair
29,	" 33	" 37	" 32	" 30.5	29.87	29.87	29.86	29.87	S. W.	S. W.	S. W.	Fair	Fair	Fair
30,	" 28	" 29	" 23	" 28.5	30.14	30.11	30.20	30.15	W.	W.	W.	Snow	Snow	Fair

THERM. { Max. Temp., +65° on the 3d.  
           { Min. "       +17° " 26th.  
 Mean of the Month, +38° 3.

BAROMETER, { Maximum, 30.66 Inches on the 1st.  
                   { Minimum, 29.12 " " 26th.  
 Mean of Month, 30.03 Inches.

*Latitude 43°. 39'. 4. N. Longitude 79°. 21'. 5. W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1,	29.964	29.831	—	—	44.0°	46.6°	—	—	—	27.3	28.4	—	—	96	90	—	—	N. E.	N. E.	—	1.275	Densely clouded. Raining till 3 pm
2,	29.680	29.646	29.685	29.6951	48.6	53.1	50.8°	50.12	316	382	367	345	95	96	—	96	N. E. 2.5 lbs	N. E.	Calm.	0.190	Densely clouded. Raining till 3 pm	
3,	29.800	29.796	29.830	29.822	47.0	52.3	49.4	47.91	304	305	312	293	95	79	90	89	S. W. by S.	W. N. W.	N. by W.	0.175	Densely clouded. R'ng 4 am till 7h 50m pm	
4,	29.950	30.031	30.115	30.0625	42.1	53.1	40.6	44.78	242	221	201	226	92	56	80	78	Calm.	N. W.	N. by W.	—	Very densely clouded all day	
5,	30.174	30.147	30.077	30.1249	37.0	49.4	33.6	39.15	197	249	171	204	90	72	90	86	Calm.	E. by N.	N. by E.	—	Part. cl'd am. Unc'd'd fine pm	
6,	30.058	30.002	29.987	30.0024	31.8	50.5	36.6	41.07	162	254	193	206	92	70	90	81	N.	N. E.	Calm.	—	Clear & uncloud all day. Very fine	
7,	29.950	29.883	29.815	29.8302	40.5	50.0	50.3	48.29	202	273	214	261	81	77	60	78	Calm.	E. N. E.	E. N. E.	—	Cl'g, exc. a few cl'ds r'nd hot. Very fine	
8,	29.734	29.662	—	—	51.5	47.2	—	—	230	297	—	—	62	93	—	—	E. N. E.	E. N. E.	E. N. E.	—	Mostly clear am. Overcast from 2 pm	
9,	29.657	29.690	29.750	29.7152	49.9	53.7	52.3	52.17	345	386	355	364	97	96	92	95	Calm.	Calm.	E. N. E.	1.450	Den. overcast. R'ng const. fr. 10h 30m am	
10,	29.754	29.677	29.677	29.6909	43.9	53.9	53.0	50.41	341	350	336	336	97	86	85	89	Calm.	E. N. E.	N. E. by N°	—	Raining till 6 am. Den. overcast all day	
11,	29.670	29.735	29.836	29.792	51.2	52.6	48.2	50.05	349	364	272	318	94	94	81	89	Calm.	N. N. E.	N. E. by N.	0.500	Den. overcast. Raining fr. 6 to 11 pm	
12,	29.902	29.884	29.889	29.8866	45.4	48.2	46.8	46.87	237	271	255	257	79	81	80	81	N. N. E.	N. by W.	Calm.	0.500	R'ng const. till 7 pm. Den. overcast	
13,	29.866	29.785	29.768	29.7946	46.2	47.0	46.2	46.09	265	271	264	268	86	85	86	87	E. by S.	E. by N.	E. by N.	0.055	Densely overcast. Very gloomy day	
14,	29.752	29.694	29.677	29.7310	43.5	46.0	47.2	44.69	252	215	220	243	90	70	78	83	E. by S.	E. 1.5 lbs.	E. N. E.	—	Densely overcast. Very gloomy day	
15,	29.664	29.681	—	—	45.2	45.6	—	—	279	234	—	—	94	93	—	—	N. E.	W. by N.	E. by S.	0.180	Mostly clouded.	
16,	29.834	29.878	29.892	29.8655	41.1	47.7	44.8	44.72	264	281	263	269	93	90	90	92	N. E.	E. by S.	E. by S.	0.520	Overcast. Raining slightly all forenoon	
17,	29.817	29.696	29.650	29.6711	41.1	47.7	46.0	46.30	237	286	306	280	93	89	93	90	E. by S.	E.	E.	—	Densely clouded all day	
18,	29.569	29.590	29.609	29.5811	42.8	50.2	43.8	46.24	261	241	248	262	97	67	88	85	Calm.	W. S. W.	Calm.	—	Mostly clouded. Slight r'n, 4 & 6 pm	
19,	29.451	29.073	29.041	29.1715	41.4	41.3	37.9	38.93	233	234	165	212	90	91	86	90	Calm.	N. by W.	N. W.	0.310	Generally overcast. Foggy.	
20,	29.319	29.464	29.506	29.4485	36.8	42.4	35.2	37.87	177	199	190	182	77	74	93	81	NW by W*	W. by N.	NW 3 5 lb	0.0310	Moderate or slight rain all day	
21,	29.510	29.403	29.271	29.4107	36.4	43.0	45.5	38.53	172	220	228	184	80	80	79	78	S. W.	S. by W.	S. W.	1.080	Partial clear pm.	
22,	29.245	29.176	—	—	36.8	42.4	—	—	203	183	—	—	94	68	—	—	Calm.	W. N. W.	W. N. W.	—	Gen. cl'd. Very sl't r'n 10 & 11 pm	
23,	29.531	29.604	29.531	29.5311	29.7	36.2	34.1	34.34	141	140	160	159	95	65	80	80	W. by N.	W. by S.	Calm.	not ap.	slightly overcast.	
24,	29.386	29.385	29.346	29.3556	32.1	39.8	30.7	33.56	165	180	142	157	92	74	82	81	N. N. E.	N. N. W.	Calm.	0.025	Partially clouded till 10 am. Clouded pm	
25,	29.259	29.168	29.195	29.2013	32.3	21.3	18.5	20.35	104	092	079	093	84	78	73	61	N. N. E.	NNW 4 0	NNW 2 0	0.025	Slight rain from 10 am	
26,	29.223	29.213	29.384	29.3076	19.3	27.5	25.0	25.18	082	114	108	111	76	75	78	80	W. N. W†	WSW 8.0	WSW 3.5	—	Sl't snow fr 2 to 10 am Halo r'd moon 6 pm	
27,	29.554	29.439	29.356	29.4279	32.6	32.4	33.4	31.55	103	151	181	164	83	81	95	85	S. W.	S. E. by S.	S. W.	—	Sl't snow am Wind very high fr 10 to 7 pm	
28,	29.366	29.521	29.552	29.6200	36.4	42.3	34.0	36.17	200	181	163	170	94	68	84	80	Calm.	W. S. W.	Calm.	0.045	Mostly clouded. Sl't r'n 10 & 11 pm	
29,	29.612	29.726	—	—	35.3	37.0	19.8	—	192	140	093	109	94	64	81	84	Calm.	W. N. W.	—	—	not ap.	Mostly clouded. Halo round moon 6 pm
30,	30.036	30.039	30.102	30.0752	25.3	28.3	—	23.24	122	127	093	109	88	81	85	85	N. by E.	NW by W	Calm.	—	Raining slightly am. Gen. clouded.	
Mean	29.6827	29.6578	29.6550	29.6714	38.53	44.35	40.24	40.82	219	239	222	227	89	79	85	85	• 2.5 lbs.	—	—	• 2.0 to 3 lb	5.805	• Snow, 25th, not ap. 26th, 0.6 inch.

[illegible]

THE  
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MONTREAL, FEBRUARY, 1847.

[No. 10

**CASE OF INFLAMMATION OF THE APPENDIX  
VERMIFORMIS,**

**FROM GALL STONES LODGING IN IT—ENDING IN  
GANGRENE AND DEATH.**

By WOLFRED NELSON, ESQ.

*The post mortem appearances (with lithograph), reported by  
J. CRAWFORD M. D.*

On Friday, 1st inst., 3 P. M., was called to the *Rev Mr. Strong*: complained of "a fixed pain at the bottom and on the right side of the belly. The tip of your finger can cover the part—the pain is much increased when there is a peristaltic motion of the bowels—violent gripings come on about every 20 or 30 minutes—no thirst, but the mouth is dry." Such was the description he gave of his case. Mr. S. was 31 years of age, of a bilious temperament, habitually constive; would occasionally take blue pill followed by seidlitz powder: had had no move for the last 24 hours. The skin was moist and cool, pulse about 80 and soft, tongue white. Of calomel, jalap and rhubarb 10 grains each, were given; a drachm of soluble tartar in a pint of water for drink. Bags of heated oats or bran to be kept constantly over the pain. Saw him again at 7 P. M. Had passed a copious, soft stool, deep brown colour and very offensive odor, with much flatus. "Much better, the griping less severe and frequent, but the pain still in the same spot." Five grains cal. with one of ext. aconite and half a grain ext. belladonna in a pill were given. Continue hot applications, sol. tartar, &c. Enemas with castor oil to be administered during the night should the pain increase.

2nd, 9 A. M. "Passed an uneasy night; occasional slumber but no refreshing rest: griping less often but extremely severe: the pain always in the same place:" skin, pulse, and tongue as yesterday. "No pain on pressure but on that particular spot;" countenance dejected, eyes sunken, and tinged with yellow. Two enemas had been given in the night, some liquid fæces passed. Repeated the calomel, &c. 12 P. M., no attendment: two grains calomel every hour—fomentations. 3 P. M., "Fixed pain and griping more violent," yet was there no reaction nor pain of the abdomen, save "in that one spot." Bled to the extent of 22 ounces: became faint, had a copious liquid stool, and passed large volumes of flatus; felt much relieved; continued medicine. 7 P. M., "better than at any time yet, but that

little place is always very painful, and the griping though less often is very severe." To the calomel was added half a grain of morphine: a blister applied over the right iliac region; bags filled with hot oats to be continued; soluble tartar, as usual. 3rd, 2 A. M., was sent for, had become suddenly worse; "pain in the part intense: running down to the anus and to the end of the urethra: if you could only open that small place how it would relieve me; mouth dry; but not thirsty:" surface cool; pulse 90 and weak: bottles filled with hot water to the feet, &c. Notwithstanding the symptoms of collapse, twelve leeches were placed over the right groin, the pain being so intense there. The blood taken yesterday highly buffed.

The patient had been made aware of the nature of his case from the first: I requested that other medical aid might be had: in about two hours I had the pleasure of having Dr. Crawford's valuable assistance. The Doctor concurred in my view of the case and in all that had been done. A few drops of the arom. spt. amm. were given as a gentle diffusible stimulus. Bags of bran steeped in hot water were applied over the leech bites, which bled rather freely. Four grains calomel, two of ext. hyos. and two of opium were given every four hours. Once between each dose, the cal. and hyos. alone were to be taken. 9 A. M., we returned, found a striking alteration in the symptoms. The surface was now warm: the pulse 120, small and hard: the abdomen becoming tense; pain more diffused: continued medicine, fomentations, &c.

Anticipating the necessity for the further application of leeches, a number were ordered to be provided against the next visit.

1 P. M.—We were joined by Drs. Campbell and McDonnell: were unanimous as to the nature of the case: external heat much increased: "pain had shot all over the abdomen:" pulse 140, small and hard: breathing hurried. Eighteen leeches were applied over the right hypogastrium and a large blister over the epigastrium: medicine as usual. 6 P. M., met Drs. Crawford and McDonnell: all the unfavourable symptoms much aggravated: at 9 met Dr. C. again: evidently sinking: died at 2 P. M.

It is worthy of remark, that so long as the pain was confined to the region over the appendix vermiformis

the pulse, skin, and general aspect were those of inflammation of a mucous surface; but so soon as the pain "spread at once all over the abdomen," then the symptoms characteristic of inflammation in the *serous* tissue, or peritonitis, became very striking. Vomiting of a little mucus had taken place on the invasion of the complaint, but not afterwards—at no time was there hiccup.

Our patient was made fully aware of the impending result, and he awaited it with all the calmness and dignity of a good Christian and a good man.

I was kindly assisted in the post mortem examination by Drs. Crawford and McDonnell. The appearances fully justified the diagnosis. That there was impaction and inflammation of the appendix vermiformis in the first instance; and that the symptoms of jaundice were due to obstruction in the biliary organs. Dr. Crawford has taken notes of the morbid appearances, and will be so good as to append a detail of them together with such remarks as he may deem proper, that the profession may have the advantage of profiting by this highly interesting and singular case.

Montreal, 7th Jan. 1847.

*Autopsy.*—On laying open the abdominal parietes, the peritoneal coat of the intestines generally, was of a bright rose colour; and was in many parts covered by an exudation of coagulable lymph, particularly where the bowel doubled on itself; these knuckles were in consequence slightly adherent together: a few ounces of turbid serum commixed with lymph were found in the peritoneal cavity. The appendix vermiformis was so altered in appearance and structure, as scarcely to be recognizable; it was about the size of a man's thumb, both as to its length and breadth; and of a dark or purplish red colour, easily breaking down, on any rough handling; being evidently in a state of gangrene throughout its whole structure: its upper portion alone, at its junction with the cæcum retaining its normal texture, its cavity was capable of admitting a finger: it contained a small quantity of dark thick fluid, but not sufficient to distend it. Two small portions of gall stone, each about the size of a small finger nail, were found in this cavity. The cæcum did not appear to be more involved in the peritoneal inflammation, than the other bowels; its mucous tunic was quite normal. The liver was mottled, pale, and of a blue colour. The gall bladder distended with extremely tenacious thick dark bile resembling tar, which adhered firmly to the lining membrane of the gall bladder, and to that of the ducts, which it almost completely blocked up, so that it was with some difficulty that the bile could be forced

through them—explaining in a very satisfactory manner the cause of the co-existent jaundice, which was very manifest over the surface of the body, and in the tunica adnata.

*Remarks.*—This case in its earlier stages was very obscure, there being nothing to indicate the existing inflammation, except the local pain, which although fixed was liable to exacerbations of a spasmodic character. There was neither tenderness nor tension of the abdomen. The stomach, although frequently excited to nausea, by eructations, was not provoked to vomiting. The pulse until one o'clock of the day of his death, indicated depression, rather than inflammation: possessing very little firmness, or resistance, and varying in number from 80 to 90. From this time the inflammation spread with amazing rapidity, and manifested itself by general abdominal pain, and intolerance of pressure. Although there was considerable flatulence, the abdomen did not at any time become tympanitic.

The great peculiarity of the case however was, its originating in the appendix vermiformis, an occurrence equally rare, as its invariably fatal consequences are inexplicable.

That such an apparently innocuous body as a gall stone, a pip of an apple, a small bean, or a plumb stone, can excite fatal inflammation, shortly after its introduction into this portion of the intestinal canal, a few well attested cases fully demonstrate: while the peculiarity of organization which renders this part so obnoxious to inflammation, from what would appear so insufficient a cause, is not so clearly understood.

The rapidity with which peritonitis ensues after the introduction of foreign bodies into the appendix vermiformis, is noticed by Dr. Wardrop, in his edition of Baillie's *Morbid Anatomy*: "Twenty-four hours after that a small bean had been swallowed, peritonitis ensued, and proved fatal in three days, when the bean was discovered in the appendix;" he also notices a cherry stone producing similar consequences.

Dr. Copland mentions four cases similar to the above, originating in the introduction of foreign bodies into the appendix, which were followed by gangrene of this portion of the bowel, and general peritonitis, the cæcum not being in any especial manner involved; in all these cases, however, there was obstruction of the bowels, obstinate retching, vomiting, and tormina. Symptoms of *ilium* having been superadded to those of enteritis, none of which, however, it will be seen, occurred in the present case.

## CASE OF PROTRACTED UTERO GESTATION.

By JAMES A. SEWELL, M. D., Quebec.

*To the Editors of the British American Journal of Medical and Physical Science.*

I see in the November number of your Journal a report of the case of the "Com. vs. E. F. Hoover," which induces me to send you the following, which I extract from my note book just as I recorded it at the time of its occurrence. The case is of interest in a Medico-Legal point of view, as I conceive the data, (always uncertain), are, nevertheless, as correct as they can well be in any case of the kind; and goes to support the justice of the laws of those countries which allow a greater latitude than our own, for the occasional deviations of nature from her established rules, with regard to the period of utero-gestation; whereby, as in the case above alluded to, the guilty are punished, while the, (it may be), innocent woman, (as in the following case), would be protected from the fiery darts of slander, had the husband unfortunately have died shortly after her conception.

Mrs. A. B., aet. 22.—Second pregnancy delivered Sep. 8, 1842. Natural labour.

This lady was confined by me in July 1839, with her first child. She stated to me during her pregnancy that she "expected" about the 19th of June, but the event did not take place till the 19th of July. It became a matter of joke between us that she was carrying her child ten months; but it was merely a joke, as I conceived she had miscalculated her time, which was not to be wondered at with her first child. I am now, however, of opinion that she did in reality carry her infant ten months, and, moreover, that she has done the same thing on the present occasion.

The circumstances of her second pregnancy are as follow. In July 1840, she left her husband in this country and proceeded on a visit to her friends in England; was absent about 14 months, and returned to this city and her husband on the 19th of Sep. 1841, having menstruated on ship-board during the first week of that month.

On the 5th of October the catamenia returned, being exactly the period at which she looked for them. In November, however, they did not make their appearance, but about this time she began to complain much of "morning sickness," and to be troubled with *toothache*, with which symptom her first and subsequent pregnancy declared itself; her breasts also began to fill up and be hard, with the usual dark areola around the nipple, and she at once declared herself to be in the family-way, in which opinion I fully coincided, and which I had no reason to change afterwards. Her ca-

tamenia did not return, and she was confined on the 8th Sept., 1842, of a large healthy female infant.

From what period are we to date, is a question which now naturally presents itself. If we follow the usual course, I should count from midway between the *last* time she was unwell, and the *next* monthly period at which the catamenia should have returned. Say then she was taken unwell on the 5th Oct., from which she had perfectly recovered on the 10th, and allow 15 days to elapse, which will bring us to the 25th of October, the day from which I think we are justified in reckoning.

If then these data are correct, Mrs. A. B. carried her infant in utero 318 days, or more than ten and a half calendar months. If on the other hand, impregnation did not take place till the 4th of November, or the day immediately preceding that on which the return of the catamenia was looked for, (and which I conceive is the latest date we can ascribe to it), even then gestation will have been protracted to 307 days, or twenty seven days beyond the usual 40 weeks.

*En passant* I would merely remark, that this season, in Quebec, has been noticed for the great number of cases in which ladies have exceeded, by many days, (and in some instances even weeks), the period for which they had secured the services of their professional attendants.

Quebec, Dec. 1846.

## POISONING BY ACETATE OF LEAD.

By ROBERT W. EVANS, M. D., Richmond, C. W.

On the 19th Nov. 1846, I was requested to attend Mrs. W., aet. 27, married 8 years, without issue; of intemperate habits. The messenger informed me that she had by mistake taken  $\frac{1}{2}$  oz. of sugar of lead for loaf sugar. I proceeded at once to her house, "*well armed*" with sulphate of zinc, &c. The room was filled with friends summoned from the neighbourhood, all endeavouring to administer relief to the suffering patient. She complained of a twisting pain around the umbilicus, with retraction of the abdomen towards the spine; pain in the back, nausea, tremors, great uneasiness and anxiety, dilatation of the pupils, metallic taste in the mouth, constriction of the throat, hiccough; pulse 70, small and hard, (increased in force in consequence of ardent spirits drunk during the day); laborious breathing; thirst; a desire for cold drinks; to these symptoms succeeded spasms, and pains principally of the hands and feet.

Treatment.—Without delay I administered sulphate of zinc, gr. xx., which produced immediate emesis, encouraged by copious draughts of tepid water: after



the operation of the emetic, sulphate of magnesia  $\mathfrak{z}\text{ij}$ .; a warm bath at 98, acid (sulphuric aromat) gtt. xij. omni hora, in a wine-glass full of water. This treatment gave considerable relief.

20th, at 8 o'clock a. m.—Complained of slight pain in the bowels; medicine operated well—ordered calomel gr. iv. opii gr. i. At bedtime ol. ricini  $\mathfrak{z}\text{i}$ . 21st. Much improved; pain in the bowels removed; states that she had been afflicted with "Fluor albus" for 6 months, and that the leucorrhœal discharge has ceased since she took the lead. The aromatic sulphuric acid to be continued three times a day.

It is an established fact that the preparations of lead do not pass off, or at least very sparingly, in the secretions. In this respect lead forms a striking contrast with iodide of potassium. When the latter accumulates in the blood it produces sneezing, headache, watery eyes, and a variety of other symptoms, and at the end of a few days these symptoms vanish.

The poison of lead, on the contrary, remains in the system, and its effects are consequently more lasting. "The presence of lead in the solids and fluids has been detected in a case at King's College Hospital, London, treated by Dr. Budd, where the patient had been a house-painter for some years, and died from colic and epilepsy. The metal was detected in the brain by chemical analysis, but Mr. Bowman could obtain no evidence of it by the microscope." However, the fact that acetate of lead has been lately detected in the urine, confirms the idea that it is the least poisonous of the salts of this metal. Poisoning from lead is never intentional, but only accidental. Its presence can easily be detected by rubbing it in mortar with a little spirituous solution of guaiac, and a few drops of liquid ammonia, which produces a beautiful grass green, passing to glaucous, if lead be present.

Richmond, C. W., Dec. 18, 1846.

[The above case is interesting simply from the effects induced on the Leucorrhœa, and it is chiefly on this account we give it insertion.—Eds.]

#### STATISTICS OF THE UNIVERSITY LYING-IN HOSPITAL, MONTREAL.

By M. McCulloch, M.D.M.R.C.S.L., attending Physician, and Lecturer on Midwifery, McGill College.

This institution was first opened to the public in November, 1843, under the direction of the Medical Faculty of the college, and is now entirely supported by the zealous efforts of benevolent ladies.

Three hundred and fifty-four patients have been already delivered.

Of the number there were—

Vertex presentations, . . . . .	339
Funis and Head, . . . . .	1
Face, . . . . .	2
Face, . . . toward the Pubis, . . .	6
Breech, . . . . .	2
Feet, . . . . .	5

If we exclude from the calculation the breech and feet cases only, the result will be ninety-eight presentations of the head in every hundred labours.

Ergot has been administered only to two patients, and venesection had recourse to, once before and once after delivery. Two of the mothers had convulsions after delivery; and twelve cases of puerperal fever occurred.

The labour terminated within six hours in one hundred of the cases, within twelve in two hundred and forty, and within twenty-four hours in three hundred and thirty-six. Four were forty-eight hours, and one only of longer duration.

In the three hundred and fifty four cases, the average duration of labour was eleven and a half hours.

A patient, who daily expected to be confined, entered the room where another was suffering in labour, and, without any premonitory symptoms, the liquor amnii suddenly escaped, and, with only two pains, the child was born before she could be removed to a bed.

Two of the mothers died, one from uterine inflammation, after a very severe labour, and another in a comatose state, twelve hours after an easy delivery, in consequence of falls on the head previous to her admission. The deaths being thus one in a hundred and seventy-seven.

The eldest patient was forty-five years of age, and the youngest fourteen years and seven days. Although the face of the child was towards the pubis, she had an easy labour of seven hours duration, and her infant weighed six pounds. There were three cases of twins.

One of them has already been reported in this journal by Dr. Sewell, who found the patient with symptoms of labour in her masters house, and, very much against her inclination, sent her to the hospital; where she continued to deny that she was pregnant, until she was delivered, and then the presence of a double placenta, with two cords, disclosed the secret of her having a short time previously given birth to another infant. Her former residence was immediately searched by the police, and the other twin found concealed in her trunk.

The only instrument used to assist delivery was the forceps, once in the three hundred and fifty-four cases.

One hundred and seventy-eight of the children were males, and one hundred and seventy-six females.

Eighty-three of the children were weighed, and the average was seven pounds and a half; only four of that number weighed twelve pounds each.

Malformation was observed in only two of them, one had spina bifida, and the other was anencephalous and survived nearly an hour; it was at the full term, and otherwise well formed.

The longest umbilical cord was thirty, and the shortest six, inches.

Only five children were still-born, being in the proportion of one in seventy-five births.

Montreal, January 25, 1847.

#### REMARKS ON DR. MACDONNELL'S PAPER ON THE USE OF THE MICROSCOPE.

To the Editors of the *B. A. J. of Medical and Physical Science*.

Gentlemen,—I received the enclosed communication from Dr. ——— some days ago, but disliking to place it before the public through the medium of the daily journals, I desire to know whether you will insert it as it stands, in your next number.

I remain, &c.,

F. T. C. ARNOLD, M. D.,  
58, Craig Street.

Montreal, Jan. 7, 1847.

The October number of the *British American Journal*, having but very recently reached me, I apprehend, that any observations which I may have to offer on Dr. Macdonnell's article upon the use of microscopes, will seem, at the present time, rather out of place: but laying aside this considerations, *bongré malgré*, I deem the exalted and self-sufficient tone which that gentleman has assumed, in reference to illuminating various operations of nature, and to explain certain properties of matter through the microscope, ought not to remain entirely unnoticed.

On a subject of so much importance as one which also treats upon the means of discovering the hitherto concealed causes of those morbid actions or excitements which disturb the animal economy, from its normal operations, the author, in my humble opinion, should court the practical investigation of his professional brethren in terms less intemperate, and less dogmatical than those he seems to have adopted in his communication.

I am ignorant of what is meant by the pretended value of his information not being intended to such scoffers of science.

I may class myself among those against whom so offensive an insinuation cannot be applied, but I must confess to be one who entertains strong doubts as to the success and benefits of the learned experimentalist

promises to result from the use of the microscope in the elucidation of many departments of practical medicine. I hold it no inconsiderable step in favour of science, to bring ourselves to doubt of the reality of some facts advanced for truth, without any reference whatever to the celebrity of names: nay, it is to doubt, that innumerable medical errors have not been permitted to travel down to us, from time out of mind, as matters of unquestionable veracity: and it is to a rigid and impartial investigation, that many of the facts that are ushered into the world, lose their importance;

We cannot all with the same electrical rapidity as the learned doctor, penetrate at once into a *new Theory of Physics*, however simple its principles, without dissipating many clouds, and bringing to our examination the clearest and steadiest rays of the light of science and experiment. Experience, indeed, has taught many of us, that discoveries founded on novel principles and experiments, and bolstered by strong professions of success, have often disappointed the expectations built upon them; and the hope of something solid and useful as well as new, has been puzzled by the vanishing tenuity of the thread of reasoning which has been drawn out beyond the staple of the argument, till apparent axioms have sunk into postulates, and these have dwindled away into hypotheses, rather darkened by variously interlaced inductive reasonings; and in the end, Ixion-like, we embraced a cloud, or like the sage of old, terminated our labour with the no feigned cry of "all this is vanity and vexation of spirit."

It is not my intention to interpose any doubts which I entertain from practical results, to the success assumed by Dr. Macdonnell on the application of the microscope, in ascertaining the properties of matter in certain diseased actions of the animal economy, but merely to content myself with submitting such sources of information upon the subject as cannot fail to be regarded as the highest in the scientific world: I allude to the Royal Society of London; and than which, no society's transactions, contain richer and almost unrivalled treasures of facts and discoveries in every branch of demonstrative and experimental knowledge, and are more constantly referred to, as the highest and most satisfactory authority by all writers on subjects connected with the arts and sciences.

I shall now offer a short abstract of Mr. Lister's paper on the compound achromatic microscope of Mr. William Tully. Mr. Lister enters into a searching review of the comparative merits of various microscopes constructed by Cuthbert and Dolland in England, and by Chevallier, Selliqué, Amici, Utschneider and Frahnhofer on the Continent—but the author speaks with much

commendation of the superior and peculiar construction adopted by Mr. Tully. The magnifying power may be varied at pleasure, either by drawing out the tubes containing the eye-pieces, or by substituting an eye-glass of different power or differently combined, and by these changes an uninterrupted range of amplification is obtained from 35 to 800 diameters. The construction of the instrument admits of the utmost variation of magnifying power, without the risk of losing sight of the object viewed. In stating the results of his experience, the author takes occasion to advert to some of the sources or fallacy, by which observers with microscopes have often been greatly misled. When a pencil of rays proceeding from an indefinitely small bright portion of an object are brought to a focus by *the most perfect object glass*, the image thus formed is in reality not a point, but a small circle, and will always appear as such, if the eye-glass of the microscope be sufficiently powerful. These circles have a considerable analogy to the spacious discs of stars viewed through telescopes: like the latter, they become much enlarged by diminishing the aperture of the object-glass, and they are also enlarged by increasing the intensity of the illuminated. The overlapping of contiguous circles of diffusion have given rise to many fallacious appearances; such as the spottiness which some surfaces assume, and which have been mistaken for globules. This optical illusion has been the basis of some ingenious but visionary speculations on the intimate structure of organic matter. The appearance, in certain directions of the light, of lines on the surface of an object when they do not really exist, may be traced to a similar cause.

As I have already stated, no practical results from the use of the microscope are intended to be offered by me, (not having been as Dr. Macdonnell for some years back, in the daily habit of using this instrument in the investigation of diseases of the kidneys, urethra, bladder, &c.) but merely to impart to those who may feel predisposed to place implicit reliance on its use in practical medicine, the full benefit of the valuable investigation of Mr. Lister, F.R.S., and in the assurance, that the errors and fallacies, as well as discrepancies which exist in the results of the use of the microscope in the elucidation of physiology, have not been published to the world by so learned a body as the "Royal Society of London" with a view "to undervalue its revelations, and ridicule its pretensions," but in the full integrity of purpose, that of guarding the experimentalist from those optical illusions, which too often originate ingenious but visionary speculations.

A COUNTRY PRACTITIONER.

December 3, 1846.

[It is not the intention of Dr. MacDonnell to enter into a discussion with the writer of the above *very intelligible* production; for it is by no means an enviable occupation to engage in controversy with an antagonist ignorant, by his own admission, of the subject in dispute; and who, moreover, professes that he "*holds it no inconsiderable step in favour of science to bring ourselves to doubt of the reality of some facts advanced for truth*!" With such an adversary, how could any one, who entertains the usual estimate of *the value of facts in establishing truth*, hope to meet with success. —R. L. M'D.]

## PRACTICE OF MEDICINE AND PATHOLOGY.

### HISTORY OF A CASE OF REMARKABLE COLOURED SECRETION FROM THE SKIN.

By C. D. PURDON, M. D., Belfast.

Barbara Murphy, æt. 40, an inmate of the Infirmary attached to the Belfast Charitable Society, the mother of two children: catamenia regular up to the last six months: attributes the first commencement of her state to a fever with which she was attacked about twenty years ago, immediately after which she experienced a pain in the ball of the great toe of the right foot, terminating in a swelling of the same part. Both ankles became painful and swollen; a short time after this ascites supervened; all these symptoms subsided on her becoming pregnant, during which time she enjoyed perfect health. About three weeks after her confinement she was seized with pain, accompanied with swelling, in the joint of the first finger of the right hand, which gradually attacked each joint of the upper extremities in succession, and spread thence to the lower, commencing above. After some time the wrists, ankles, and smaller joints of the hands, became distorted and nodose, in which state they have since continued. From this time nothing remarkable was to be observed in her state, but she continued to suffer from occasional attacks of rheumatism, and was almost always confined to bed, until three years ago, when, during an attack of rheumatic fever, the heart for the first time became affected, after which anasarca and hydrothorax supervened. These were partly relieved by a severe diarrhoea, but on its subsidence both became greatly aggravated; however, they were not only kept in check but much ameliorated by the different remedies employed. Some months ago they returned with such severity as to threaten a sudden termination of her life; when at the worst a miliary eruption appeared on the trunk, greatest in the epigastric region, from which a clear serous discharge flowed in such quantities as literally to wet the bed; there was also a great moisture on the legs, which had blisters on them, in place of the eruption; this of course was attended with the greatest relief, and the breathing became almost free. The discharge continued for some days, after which it ceased, and symptoms of dyspnoea returned with great severity for fourteen days, when, after having a sense of prickling over the whole body for about twelve hours, the eruption again appeared, attended with the discharge, and causing the same relief. In this state of alternate relapse and recovery she has been for the last two months, the duration of the paroxysms being either eight or fourteen days; but the most curious point in the case is, that the serous discharge has changed very much in its character for the last four or five attacks, being nearly alternately blue and straw-coloured, or yellow, almost like pure bile. When the blue discharge appears she is aware of its advent by a mouldy smell and a prickly sensation, which precedes it invariably for twelve hours; the yellow is not attended by either of these. The blue always appears along the posterior part of the chest; the yellow generally proceeds from the abdomen and back of the neck, and rarely from the back; the blue never has appeared on the abdomen; the two colours have been procured from the different parts at the same

time. The discharge from the extremities has never been coloured. In place of catamenia there is a discharge of a reddish green colour. As to treatment every remedy has been tried without relief to any of the symptoms, either of the rheumatic or cardiac affections. The yellow colour is tolerably permanent, the blue, however, fades; she has not taken any preparation of iodine for some years, and at present uses only opiates and saline draughts. In addition, it is worthy of remark, that a very peculiar elongation of the quick under each great toe nail has taken place. This became manifest on the nail being paired, and now appears like a loose fold of flesh, which hangs over the ball of the toe, and resembles in shape the bony nail.—*Dublin Quarterly Journal of Medical Science.*

## OBSERVATIONS ON THE OXALIC DIATHESIS, AND THE INFLUENCE OF THE RHUBARB PLANT IN ITS PRODUCTION.

By JOHN S. BARTUM, Esq., Surgeon, Bath.

Having for some years been in the habit of paying attention to the general and chemical conditions of the urine, it was with much pleasure that I perused the paper of Mr. Wilson, inserted in No. 35 of the *Provincial Journal*, (September 2, 1846,) especially from having, on several occasions within these two or three last years, noted in my own person, the effects on the urine of the rhubarb stalk and other articles of diet. The portion of urine passed after rising in the morning was always examined by the microscope without heat, as the shortest and not fallacious mode.

Being apparently in the most perfect health, excepting rather overworked, and as far as unlike a patient suffering from oxaluria as possible, at first I could scarcely believe myself to have passed oxalate crystals, still confirmed in my supposition by Dr. William Budd, who immediately remarked that I must have been eating rhubarb, which, however, had not been recently the case. This induced further and oft repeated examinations, the general results of which I can only now give, having not long since destroyed the daily records, considering them as not worth keeping.

While passing the smaller oxalates, and then partaking freely of rhubarb, the first effect was generally to increase the size and quantity of oxalates thrown down, with the occasional addition of some of the reniform bodies; the diet being continued, the crystals of all shapes increased in size, especially the latter, till on two occasions they almost solely were passed. However, after a day or two, the oxalates diminished and then disappeared, although rhubarb was still partaken of; this may probably be explained by having regarded the appearance of the oxalates, as sure warning that I must give myself more relaxation. The results have been similar on two or three occasions, when from continuous exertions I have expected their presence and found them; but I have never been able to induce their appearance by the freest use of rhubarb, except in the very fine cuboid forms, for a day or so, unless they were previously present.

If Mr. Wilson continue his inquiries, I think he will find, that any article of diet, adding to the irritability of the kidneys and bladder, will induce an additional secretion of the oxalates; for I always found, that partaking freely of water-cresses added materially to the quantity of oxalates, provided I were already passing them, from the irritation of the bladder, caused by the abundant secretion of free lithic acid. Whether the elimination of oxalates, as well as of lithic acid, was due to the water-cresses, or the common salt accompanying them, I cannot say. That must be left for future investigation.

It will be found almost universally, that cases characterised chiefly by deposits of oxalates are combined with an asthenic condition of the assimilating organs; some of them corresponding closely with those caused by the excretion

of an abnormal amount of urea, the urine then being dense and loaded with lithates, while others, from the excessive excretion give rise to a suspicion of diabetes mellitus, so much so, that of the many specimens sent me for examination, where a large quantity of urine is voided, the greater proportion are of low specific gravity, with some few small oxalates, and often swarms of vibriones. These latter cases, however, are essentially cases of want of nervous power without any specific ailment, sometimes passing phosphates, sometimes oxalates, according to the varying condition of the system, which always displays a very reduced vitality.

In this, as in all other diseases of the urinary organs, where chemistry is called into our aid, there is great danger of their being treated as though the body were a mere laboratory, wherein we could modify these secretions at our will, overlooking the essential cause of the ailment; but, however useful and necessary such examinations may be, it behoves the practitioner carefully to eschew being implicitly guided by them; as some cases of this disease are treated successfully by alkalies, others by acids; some by restricted; others by a generous diet; for though medicinal remedies are most useful, and in the majority of cases requisite, they will be of little avail, if not well supported by carefully-applied general and dietetic measures.

I think that the size of the crystals of oxalates passed will often afford a good indication of the extent of the oxalic diathesis. If the crystals, especially the reniform, be large, distinct, much inclined to become clustered, crystallize on the hairs, &c., much oxalate of lime is passing. As the case improves, the crystals lessen in size and numbers till at length they become undistinguishable, except to the educated eye. Though it is unusual, the reniform bodies may continue to the last, when, in some positions, they may become in appearance almost like a blood-corpuscle; in the majority of cases these crystals are not to be found.

It has been suggested (by whom originally I cannot learn,) that these reniform bodies are not oxalate of lime, but lithic acid, modified in shape by the presence of oxalic acid. This can scarcely be, for I have, with several different specimens, macerated the whole deposit in liquor potassæ, to get rid of any free lithic acid; then, in diluted acetic or muriatic acid, whereby the phosphates and lithates are separated; yet both the cuboid and reniform crystals have remained quite unaltered. I have not succeeded in throwing down crystals of oxalate of lime, when a deposit of free lithic acid and oxalates was dissolved in sulphuric acid, and the former separated by the addition of water, perhaps from sufficient care not having been taken in the matter.

Should it be desired to separate any deposit of these salts for examination, it is most easily effected by decanting the upper layers of fluid, adding distilled water to the remainder, with or without potass, or acetic acid. The oxalates soon fall to the bottom, and may be readily collected on a watch-glass, without heat or any other process that could modify its composition after leaving the body. By careful manipulation you may obtain and weigh all the crystallized salt in a given specimen. To those not conversant with the salt naturally deposited, yet desirous to examine it, one of the best modes of learning all its usual shapes and sizes is to add a dilute solution of oxalic acid to fresh healthy urine, when after some hours the characteristic crystals will be found in abundance.

I do not know whether this city more abounds with cases of this disease than most others, but among its labouring population, of the class next above the poor, such as policemen, schoolmasters, carpenters, &c., (some hundreds of whom come wholly under my observation,) dyspepsia, of an atonic character, and marked by the pallid, depressed, emaciated countenance, with more or less hypochondriasis, pain of the side, (often of great intensity,) or of the back,

and the passage of oxalate crystals is most rife, though in most cases readily amenable to judicious treatment. From my own observation this form of dyspepsia does not seem so common among the women of this class as among the men, even in those, wherein from their appearance and symptoms I had fully expected to find it. Of the presence of the oxalates in the more acute or in cutaneous diseases, I can say nothing, not having examined them for that purpose.—*Provincial Med. and Sur. Journal.*

#### CONDITION OF THE BRAIN IN PERSONS WHO DIE BY STRANGULATION.

Dr. George Burrows, in his work on Disorders of the Cerebral Circulation, reviewed in our last number, makes the following important remarks:—

"It may now be affirmed that the encephalon is not exempt from this law in physics—the gravitation of the fluids to the lowest parts of the corpse. The discovery of the operation of this force on the blood, within the cranium after death, suggests a precaution very essential to be followed, when it is desired to ascertain the precise amount of congestion of the cerebral vessels at the time of death. In such cases, a ligature should be placed round the throat of the corpse, and drawn sufficiently tight to compress the cervical vessels, and arrest all flow of blood through them. This precaution will be most required in the examination of bodies, where, from the kind of death, the blood may be suspected to remain fluid in the heart and great blood-vessels. The depending or elevated position of the head, during the examination of the body, will not then induce deceptive appearances, which mislead us in our conclusions as to the previous amount of congestion in cerebral vessels."

This caution, (says the reviewer), is rendered the more necessary, because the non-congested state of the brain, which has been observed in persons who have been hung or strangled, has been adduced in proof of the iatro-mathematical proposition, (viz., that of a fixed quantity of blood circulating within the cranium.) But Dr. Burrows shows that the brain may, or may not, be congested according to circumstances, and these circumstances consist in the mode in which the strangulation is effected and in the anatomy of the cerebral vessels. He thus accounts for the occasional absence of cerebral congestion in those who have suffered death by hanging.

"When criminals are hung by the executioner, the knot of the rope is usually adjusted on one side of the neck, and it is found, after death, beneath the ear, resting on the mastoid process. It has been often observed, in the dissection of such criminals, that the cheek and integuments on this same side of the head are not near so livid and congested as on the other side. The pressure of the rope has not completely obstructed the return of blood through the external jugular vein on the one side, although it has effectually stopped the current on the other. In such cases, it is probable, that the deep-seated internal jugular vein on the one side has only been partially compressed, and has permitted, to a certain extent, the return of blood from the internal parts of the cranium.

"But there is another still more efficient cause of this occasional absence of congestion of the cerebral vessels after death by hanging; it is the subsidence of the fluid blood after death, while the body is yet suspended, through the cervical vessels which are not completely obliterated by the pressure of the cord. And it should be recollected that there are some channels which are scarcely, if at all, affected by the compression of the rope. These other channels are the vertebral sinuses and spinal plexus of veins, so ably delineated by M. Breschet."

The sinuses of the cranium may also be drained otherwise than through the vertebral sinuses. In examining the bodies

of those who have died by strangulation, the great vessels of the neck are usually cut across to get at the thoracic viscera, and then when the head is elevated to open the skull, the blood gravitates and flows from the cut ends, and the blood-vessels, (previously congested,) are rendered comparatively empty. Dr. Burrows further observes, in proof of this explanation, that in other instances, where life has been destroyed by obstruction of the respiration, congestion is usually present.—*Brit. and For. Med. Rev.*, October 1846.

#### MODUS OPERANDI OF OPIUM IN THE TREATMENT OF HEMORRHAGE.

By Dr. W. GRIFFIN.

"Of all the wonderful influences exerted by opium, that by which it sustains the powers of life when sinking from hemorrhage, and arrests the flow of blood, is the most extraordinary. When after severe uterine hemorrhage, the countenance is sunk, the eye glassy and hollow, the lips blanched, the skin cold, and the whole person corpse-like, when the pulse is almost gone at the wrist, when every beat of the heart is scarcely perceptible, and stimulants, even brandy or rectified spirits, are either vomited or uninfluential, there remains yet one remedy capable of restoring the patient to life, and that is opium. I believe its power of saving life under these circumstances depends principally on its specific property of producing congestion in the brain. That amount of congestion by which it occasions apoplexy, when given in large doses to persons in health, seems only sufficient to sustain the necessary tension of the cerebral vessels in those who are dying from hemorrhage. Persons die in cases of hemorrhage, not so much from mere debility of the heart's action, as from the loss of nervous powers in the brain consequent to it. The opium in such cases not only stimulates the heart's action, but restores a sufficient degree of tension to the vessels of the brain to prevent faintness; and, by the judicious repetition of the remedy, life is preserved on the very borders of death. There are no cases in which opium can be given so freely and so fearlessly as in these. When the danger is imminent, five grains may be given at the first dose, and two or three every hour or half hour afterwards, until the pulse becomes distinct, the breathing easier, and the tossing about in the bed is allayed. It is hardly necessary to observe, that in such cases, in conjunction with the use of opium, the administration of warm wine or brandy, with heat to the extremities, is highly useful, if not essential."—*Medical and Physical Problems.*

#### ERGOTINE AS A HÆMOSTATIC.

On the occasion of M. Bonjean's presenting the French Academy of Sciences with an account of an additional experiment he has made with *Ergotine*, in which the bleeding from the carotid of a horse, divided through a third of its circumference, was at once arrested by the application of ergotine, M. Velpeau delivered the following sensible and pertinent observations:—

"What M. Bonjean says of ergotine has been said by an affinity of other persons concerning different substances. Hæmostatic means of a real efficacy are nevertheless as rare as ever. The error arises from these authors having forgotten two things in their experiments. 1. In animals, the plasticity of the blood is much greater than in man, whence it follows that means which will arrest hemorrhage in the one, may easily fail to do so in the other. All those who have made experiments on living animals know that, in the horse, the ox, the sheep, for example, the largest wounds of arteries rarely give rise to mortal hemorrhage. The blood, ceasing to flow almost of its own accord, leads the public and inexperienced authors to believe that it is the means or remedy employed which has closed the artery. Thus, what powders, waters, liquids, what arcana of every kind, have been vaunted at first as infallible; and then, after a searching examination, rejected as useless? 2. In man, many arterial hemorrhages also cease either spontaneously or under the exertion of mere compression, without our being obliged to have recourse to the ligature; so that it is easy to attribute to a pretended hæmostatic substance a result which takes place quite independently of its employment.

"I have neither cause nor desire to throw any doubt upon the value of M. Bonjean's experiments: but practice has been so often deceived by similar announcements, that it behoves the

Academy to accept them with due reserve. I must add, that the practitioners who have tried *ergotine* or the *ergot of rye* have as yet derived nothing conclusive from its use. When, in *uterine hemorrhage*, the ergot proves useful, it does so by inducing contraction of the uterus, and not by any special action it exerts on the blood or on the arteries. Thus we see the question of surgical hemostatics is at once a very complex and a delicate one; and we should not receive facts concerning it without a certain degree of distrust, and only give them a very limited publicity, until they have been tested by a more mature examination."—*Med. Chirurg. Rev.*, Oct., from *Comptes Rendus*, 6th July, 1846.

### PHOSPHORESCENCE OF THE HUMAN BODY.

The subject of this case was a male infant sixteen months old. The child had suffered from teething, and had been casually seen by Dr. H. McCormack, of Belfast. An emetic was administered, and an irritating liniment rubbed on the breast. The nurse, in raising the child in bed at night, observed a phosphorescent light about the hips, both before and after the candle had been lighted. The legs were also observed to be luminous for a short time. From what Dr. McCormack could learn, the appearances very much resembled that produced by phosphorized oil, but none of this had been employed. The phenomenon occurred only once. The mother had, however, observed, that on one occasion a spark (electrical) had flown to her hand from the infant's body. Cases of human phosphorescence in the living body are rare, and the fact recorded by Dr. McCormack is, therefore, interesting.—*Med. Gaz.*

## SURGERY.

### CASE OF CAROTID ANEURISM.

*In which Galvanism was applied to the Blood in the Sac by means of Acupuncture.*

By JOHN HAMILTON, M. R. I. A., Surgeon to the Richmond Hospital.

The relation of the following case may prove serviceable to those who may try the galvano-puncture in cases of aneurism. In the first trials of a new remedy, every case should be faithfully narrated, the unsuccessful as well as the successful, that the causes of failure in the first may be clearly recognised and avoided.

James Holmes, aged 43, admitted into the Richmond Hospital, March 26, 1846. He had formerly served as a soldier in the East Indies, and was, at the end of eleven years, sent home on account of bad health. When admitted he presented the appearance of a man whose constitution had been completely broken down (as, in fact, it was) by climate, drinking, and the effects of the syphilitic poison. He had two soft nodes, one on the sternum, the other over one of the ribs. There was strumous enlargement of the lymphatic glands on the left side of the neck, with two or three fistulous openings from which thin pus flowed. He had diarrhoea, cough, headache, and restless nights; but the most distressing symptom of all was nearly constant vomiting of a greenish-yellow fluid, and of almost every thing he took. His complexion was of a pale straw colour, and he was so weak that he could scarcely stand. He had formerly been twice in hospital under my care, once for a large abscess in the buttock, and once for a suppurating node on the parietal bone, a large portion of the outer table of which had exfoliated and been removed.

Examination of the chest detected chronic bronchitis, and on the right side, where he complained of pain, there was evidence of circumscribed effusion to a small extent, with dulness on percussion, and absence of respiration, not influenced by change of position. No enlargement of the liver was discovered, nor did sufficient evidence of organic disease present itself elsewhere, but the existence of Bright's disease of the kidneys was suspected. He had occasionally slight

œdema of the face, about the eye-lids. Under treatment, the nodes disappeared, the diarrhoea ceased, the pain and effusion in the right side of the chest were removed, and his general aspect improved, but all the usual remedies failed in permanently checking the vomiting: creosote seemed to have some influence, but only temporary. It was very hard to point out the cause of this obstinate vomiting; there was no sign of disease of the brain; it had not the character of that attending scirrhus of the pylorus, nor was there pain or tenderness in the epigastrium. About a month after admission the lymphatic glands in the neck increased in size, and were painful. His voice, before of natural strength and tone, became weak and husky; but it was not until he had been in hospital six weeks that he was discovered to have an aneurism of the carotid artery.

May 7th. He complained of having suffered from great throbbing in the glandular swelling in the left side of the neck. Beside the most superficial glandular enlargement with its fistulous openings, a deeper-seated tumour could be felt, soft, and containing fluid, but having a well-marked diastolic pulsation: it was partly on the inside of, and partly covered by, the sterno-mastoid muscle. Pressure on it impeded respiration; pressure on the carotid below it could not be borne, both on account of the pain and its inducing vomiting; it could not, therefore, be tried long enough to empty the sac. There was no *bruit de soufflet*. The existence of the aneurism had not been observed before, probably on account of its having been, while small, masked by the suppurating glandular enlargement over it; besides, he usually kept a poultice on the part, and, making no complaint, the whole attention was absorbed in the other more obtrusive and serious complaints. As the aneurism got larger, the glands got less, from both which causes its existence became more apparent. It was not painful or tender, but the pulsation distressed him, and the pressure on the side of the larynx produced cough of a wheezing, laryngeal character, and reduced the voice nearly to a whisper.

This man, with such a constitution, was obviously no subject for any operation with the knife; in this my colleagues and myself fully agreed: the cure by pressure was, in such a situation, of course, out of the question. Some months previously I had seen in one of the French journals an account of the application of galvanism and acupuncture in curing an aneurism, by coagulating the blood in the sac. I thought the plan sufficiently feasible to determine me to try in the first eligible case.

The present case, cut off from the usual resources of art, was clearly one in which even a doubtful remedy might be fairly tried. I began to form the opinion, too, that, in the absence of any more obvious cause, the pressure of the aneurism on the par vagum might account for the obstinate vomiting.

May 15th. In the presence of my colleagues, Drs. Hutton, Macdonnell, and Macdowell, and Mr. Stapleton, of Jervis-street Hospital, I proceeded to apply the galvanism to the tumour. The state of the aneurism previous to the operation was as follows: it was about the size of a hen's egg, but rather flat, of somewhat irregular shape, with a round, smooth projection on the inside, where the walls of the sac appeared thinnest. The centre of the tumour was on a level with the cricoid cartilage, the sterno-mastoid muscle was stretched over it; the pulsation was strong, but no *bruit de soufflet* was audible.

I passed a thin gold needle into the outside of the sac, till it had penetrated to about an inch: the same was then done on the inside, the thin projecting part of the aneurism being avoided; the needles could be made to touch in the centre. I used needles of gold, as better coagulators of blood than those of steel; by the advice of Mr. Fagan, the electrician to the hospital, who was kind enough to regulate the galvanic battery for me, they were isolated every where, ex-



cept at the point, by a varnish of shell-lac. The battery used was one of Smee's, consisting of twelve zinc and silver plates. The action was given very gradually, by, at first, only immersing the plates to two or three inches. When the whole force of the battery was used, it only caused moderate pain, and produced slight contraction of the muscles; he compared the pain to the prick of a leech. At the end of fifteen minutes the coagulation of the blood was not such as to cause any remarkable change in the tumour, but it appeared to beat with less force at the outside. After this the pulsation became evidently less, the tumor firmer and larger, and he began to complain of uneasy, weighty sensations, and very severe pain, which he compared to his throat being held fast by the teeth of a dog. He said he suffered much from pain in the left side of the forehead, with lightness, and other unpleasant feelings. The sensations in the tumour were very distressing, and those in the head, from their violence, assumed rather an alarming character; but the most serious symptom was the great increase of the swelling as coagulation took place chiefly in a direction upwards and downwards, in the course of the sterno-mastoid muscle; this seemed the chief cause of the pain and the tight feel in the throat.

At the end of twenty-five minutes complete coagulation had taken place in the aneurism, which felt solid, and pulsation was imperceptible; for these reasons the galvanism was discontinued. The discontinuance might have been demanded also for another reason, that round the positive needle, on the outside, that parts in immediate contact were observed to vesiculate, and then to turn quite black for the size of a spangle, the vitality being destroyed by the galvanic action: when this needle was withdrawn there was a slight flow of blood, but none from the puncture of the negative needle.

So far, therefore, as the solidifying of the blood in the aneurism, the operation had succeeded, but not without considerable grounds of uneasiness. The unpleasant feel in the head continued, with the pain over the left eye-brow; the pupil was observed to be contracted, and there was *loss of sight in the left eye*. He was restless, and tossed about, complaining much of the tightness of his throat; he had twitches in the lower extremities, and complained of being chilly, and the pulse fell from 74 to 60. With respect to tumour itself, the sudden increase was sufficiently alarming, as it was three or four times larger at the termination of the application of the galvanism. The increase, as observed before, took place chiefly upwards and downwards in the course of the muscle; it reached from about one inch above the clavicle to an inch and a half below the ear. The tumour was also more prominent. From what did this increase arise?

May 16th. Has passed a sleepless night, and frequently vomited the iced brandy and water which he had been ordered. He had pain both in the head and in the tumour, and was unwilling to have the latter touched, it was so sore. Reaction had now set in, and the pulse was 86. The tumour was quite solid in every part, except at the inside, where it was softer, and where, I thought, I felt pulsation, but it was too indistinct to be certain. The whole solid body of the tumour was lifted up by each pulsation of the trunk of the carotid beneath it. He did not suffer pain in either the head or tumour; but complained of great weakness. Tongue rather dry, and thinly furred.

17th. Says he is better; no pain or throbbing sensation in the tumour; it looks large, I should say about four times larger than before the application of galvanism. It feels hard and perfectly free from pulsation at its posterior half; but at its anterior half, where there is the sensation of fluid, pulsation is perceptible, but less strong than before. He does not now complain on its being touched. Where the positive needle was inserted, the small, round, black spot is observable; pulse 80; vomiting as before. After this the pulsation returned in the whole tumour, which, though much in-

creased, resumed more of its original oval form, but became very prominent, the sterno-mastoid muscle being on the stretch across it.

A question now naturally presented itself,—should the application of the galvanism be repeated? My own impression decidedly was, that it should not, for should it be followed by a still further increase of size, in addition to its already large bulk, the pressure on the trachea and jugular vein might induce serious, if not fatal results. During a temporary absence in England, my colleague, Mr. Adams, who kindly took charge of the case, had a full consultation upon it, at which Sir P. Crampton was present, when it was decided that further interference by operation in such a constitution would only hurry on the fatal termination of the case.

The vomiting continued as violent as ever, and he died, apparently of exhaustion, on the 8th June, a little more than three weeks after the application of the galvanism. A few days before his death there was no pulsation in the aneurism.

*Post-mortem Examination.*—There was nothing found in the viscera to explain the vomiting, the stomach being only a little redder than natural, as was also a short portion of the ileum. The substance of the liver did not appear diseased, but it presented a curious malformation, being divided into a number of small lobules, like the kidney of an ox. No appearance of disease in the brain. The kidneys in the first stage of Bright's disease. The heart, aorta, and large vessels of the neck, were removed along with the aneurism, and carefully examined; the heart and aorta were healthy. The aneurism was about the size of a large orange, its superior surface was on a level with the upper edge of the hyoid bone, its lower with the seventh ring of the trachea: it was globular at its interior two-thirds, flatter behind, between which two portions, on the outside, was a deep groove, partly filled by the edge of the sterno-mastoid, and partly by the jugular vein, which was quite flattened and impervious. The par vagum nerve ran over the posterior surface, at first expanding out into a fibrous arrangement, afterwards so flattened on the surface of the tumour that it formed a membrane a quarter of an inch broad, so thin and so closely applied, that it required delicate dissection to raise it off the wall of the aneurism, and trace it on to its trunk above the tumour, where it became normal.

The sack of the aneurism felt strong and rather thick, particularly in front, and as if its contents were in a great measure solid; posteriorly it had a softer and more fluid feel. It sprang from the anterior part of the common carotid artery, but the vessel was lost in the tumour, and only traceable a short distance up the lower part of the back. Below the aneurism, the trunk of the carotid was sound, but both external and internal carotids were much reduced in size, and so much obstructed that a probe could not be passed through them into the aneurism.

A section of the aneurism showed the contents to be solid, the centre occupied by clotted blood, of the colour and consistency of black current jelly; from a quarter to half an inch from the margin, the layers were of a pale red colour, and had a fibrous arrangement, exactly resembling muscle; when they were removed the lining membrane was found smooth but uneven.

As far as coagulating the blood in the sac, the application of the galvanism in this case was successful, complete coagulation having been effected by it. From the proximity of the carotid artery to the heart, and the direct course of its trunk (both favouring the rapid current of the blood,) as also from the very free anastomosis with the numerous branches of the corresponding artery, an aneurism in this situation is one least likely to preserve the coagulum formed by the galvanism. In the present instance, likewise, a successful result may have been prevented by the total impossibility of using sufficient pressure to obstruct the current, and prevent its washing away the newly-made clot. To be completely



successful, repetition of the operation would have been required; my reasons for not deeming this advisable have been already stated. What I have observed, however, convinces me that in more suitable cases this mode of treating aneurisms will yet be found most valuable.\* The sudden and rather alarming increase of the tumour, which occurred during the application of the galvanism, should it be constantly observed may fairly be brought forward against its use in aneurism situated, as this one was, in the neighbourhood of important organs, which would be very intolerant of sudden pressure, although they may bear or accommodate themselves (as we know they do) to the gradual pressure of tumours.

It is not easy to account satisfactorily for this rapid enlargement; the perfect integrity of the sac shows it was not from extravasation of blood by rupture; moreover, no traces of blood could be discovered. We know that during the galvanic action a quantity of hydrogen is evolved from the negative pole; it would, however, have been scarcely equal to the actual amount of the increase; the sensation, also, was of something more solid than if the contents were gaseous fluid. It now appears to me more likely to have been caused by the galvanic influence extending beyond the sac, and coagulating the fluids in the cellular tissue around it, the coagulated matter having been afterwards absorbed. The size of the aneurism at the time of death was certainly not larger than it would have been in the usual progress of the disease, and if the galvanism had never been applied.

Mr. Petrequin insists on the necessity of the needles crossing, to produce a proper coagulum. The needles, in this case, though they could be made to touch, certainly did not cross, and yet coagulation was complete. But I have further reasons for believing this is not necessary: I thought that, in performing the operation for the future, it would be as well to avoid, if possible, the entrance of the hydrogen gas evolved from the negative pole directly into the circulation. I therefore suggested to Mr. Fagan to make the experiment of putting an albuminous fluid into a small bladder, and to insert the positive needle into the fluid; but merely to apply the negative wire to the outside of the bladder. He accordingly filled a small portion of sheep's intestine with one part of white of egg and two parts water, quite full, and without any air. He inserted the positive needle its whole length through the gut into the fluid, and applied the negative wire merely to the outside of the sac, and succeeded in producing a large tea-spoonful of mucous-looking coagulum, without a bubble of hydrogen in the fluid inside, but many adhering to the outside, and to a silver plate on which the sac was placed. We have no grounds to say the entrance of hydrogen into the blood is injurious; but the fact that coagulation can be produced without its necessarily being present is interesting. The condition in which the *par vagum* was discovered may, perhaps, explain the incessant vomiting. It is scarcely possible to suppose that a nerve so closely connected with the functions of the stomach could be so much deranged in structure without considerable gastric disturbance.—*Dublin Quarterly Journal, of Medical Science.*

#### HYDROCELE OR SEROUS CYST, IN THE RECTUS ABDOMINALIS.

Dr. Mayne exhibited to the Pathological Society of Dublin (Dec. 6th, 1845) a specimen, illustrative of the difficulty which sometimes occurs in the diagnosis of abdominal tumours.

The subject of the case was a man, aged 55 or 56 years, an occasional inmate of the South Dublin Union Poor House. He had been liable to attacks of severe bronchitis, for which he was

in the habit of seeking admission into the poor house; and, when relieved, he used to return to his occupation—that of a laborer.

About three months since, this man applied to Dr. Mayne, on account of a new complaint, namely, a frequent desire to discharge the contents of his bladder, which, if not immediately satisfied, caused his urine to pass from him involuntarily. He could retain a moderate quantity without inconvenience, but, whenever a certain degree of distension of the bladder took place, an urgent call to evacuate the urine immediately followed. He also directed Dr. Mayne's attention to a tumor in his abdomen, to which he attributed these symptoms. This tumor was seated above the pubis, on the right side of the linea alba, in the track of the right rectus abdominis muscle. It was of an oval shape, about the size of a goose egg, perfectly uniform on the surface, and yielded an obscure sense of deep fluctuation. There was a very strong impulse communicated to it, whenever the patient coughed. It was not, in the slightest degree, tender upon pressure, but, by compressing it, the inclination to pass water was strongly excited.

At first, Dr. Mayne thought it might be a sacculus, connected with the bladder, consequent on some disease of the urinary passages, but a full-sized silver catheter passed along the urethra without difficulty, showing that there was no stricture, nor any disease of the prostate gland. The urine drawn off was perfectly healthy, from which a sound condition of the mucous coat of the bladder was inferred; and the evacuation of this viscus had no effect whatever in diminishing the bulk or tension of the abdominal tumor, which rendered it unlikely that any communication could subsist between the tumor and the bladder.

Dr. Mayne was led to regard it as a chronic abscess, and the treatment was regulated accordingly; blisters, iodine, etc., were prescribed with little benefit.

After some time, the patient left the poor house, but he returned, lately, laboring under typhoid pneumonia. He was in a state of profound prostration, with extreme dyspnoea, some anasarca, and general dulness over the whole of one lung, posteriorly. He soon sank.

At the autopsy, Dr. Mayne was particularly anxious to ascertain the nature of the tumor,—it was now before the society. They might perceive that it was hydrocele, placed at the back of the right rectus muscle. In this situation, the posterior lamina of the sheath of the muscle is deficient, so that the tumor rested upon the peritoneum.

The experiment of inflating the bladder was made before the society, and, as it became distended, the superior fundus was observed to come fairly into contact with the tumor. The same occurrence must have taken place during the patient's lifetime, whenever the bladder was dilated; and the pressure in this manner exercised upon it, renders a satisfactory explanation of the urinary symptoms under which he labored.

Dr. Mayne thought it probable that any attempt at a radical cure (supposing the diagnosis to have been made) would have induced a fatal peritonitis.—*Dublin Hospital Gaz.*, Jan. 1st, 1846.

#### TREATMENT OF CERTAIN ANEURISMS BY GALVANO-PUNCTURE.

The *Gazette Médicale de Paris*, (Nos. 38 and 40, for 1846,) contains a memoir on this subject by M. PETREQUIN, of Lyons, who claims the merit of having been the first to suggest this new method of treatment. We copy from the *Monthly Jour. Med. Sci.* (Nov., 1846), an analysis of this memoir.

M. Petrequin gives the following account of his discovery:—the first results of his inquiries, he says, he published on the 25th of October, 1845, in his "*Mélanges de Chirurgie*," and "since then I have not ceased to labour at the subject. Everything was to produce in the plan and in the detail, as it is easy to judge; and I have the satisfaction of seeing that experimental observation has throughout confirmed all my anticipations." He was first led to think of resorting to chemical means for the coagulation of the blood in an aneurismal tumour, by the case of a young man in whom he believed he had detected, by the stethoscope, an aneurism of the ophthalmic artery, the consequence of an injury sustained by falling on his head from a considerable height.

\* A case is given in the *Revue Médicale*, for December, 1842, of a popliteal aneurism in a man of seventy, cured by M. Petrequin, of the Hotel Dieu of Lyons, with acupuncture and galvanism, in a single sitting; and several cases have since appeared in the public journals.

Of these chemical means galvanism seemed the only one adapted to such a case as he had under treatment. He knew that electricity had been spoken of in connection with the treatment of aneurism. On inquiry he found that all that had been said on the subject amounted to the following brief sentence, published by M. M. Marjolin and P. H. Berard, in 1833 :—"It has been suggested that the coagulation of the blood might be effected in the sac by the aid of electricity transmitted into it by needles plunged into the tumour. This idea, which we owe to M. Pravaz, has not hitherto, as far as we know, been carried into execution." M. Petrequin now applied to M. Pravaz himself, and learned from him that no trials had been made bearing on this subject, either on man or other animals. M. Petrequin's first trial, in the case of supposed aneurism of the ophthalmic artery, was not successful, and during an intermission of the treatment in M. Petrequin's absence, the young man was suddenly carried off by an attack of fever. Disappointed in this his first experiment, he was almost dissuaded from pursuing the idea further by finding that certain authorities, on reviewing the suggestion of M. Pravaz, had condemned it as totally inadequate. M. Petrequin hence concludes that the whole merit of the operation rests with himself—to which, in the meantime, we willingly give our assent. On the subject of the principles on which the success of the operation must depend, we allow M. Petrequin to speak for himself:—"The analysis of the first case led me to a knowledge of the principal difficulties, and of the resources by which they were to be overcome. Thus, in the first place, it became necessary to abate the force of the circulation in the afferent vessels, without which the clot is liable to be carried away by the current of the blood, as fast as it forms, particularly if the arterial tube be beyond a certain magnitude. In the sac the blood should be, as far as possible, stagnant and motionless; the patient should be recumbent, or seated at perfect rest in an easy-chair.

"To coagulate the blood in an aneurism, it is requisite, not only that the galvanic current should reach the surface of the tumour, and that it should be conveyed to a spot within it, but it is also indispensable that it should be directly transmitted through the blood itself by two opposing points. For this effect I employ steel needles, from seven to eight centimetres long (about three inches), fine and sharp, which may penetrate easily into the sac through the soft parts. There is here a double difficulty to be overcome; in reaching the seat of the disease they burn and cauterize the skin, irritate the nerves and cause unavailing suffering, ecchymosis, and unfavourable inflammatory action. Again they cause trouble by the loss of electricity, which may result in a failure of the operation. It occurred to me therefore, to isolate the needles in an extent corresponding to the thickness of the soft parts to be traversed, taking care to leave the heads and points free. I succeeded in this object by means of a coating of gum-lac, and better still with cutlers' varnish. It is easy to show that the isolation is thus rendered complete, for the energetic action which takes place when the poles of the galvanic apparatus are applied to the head, or to any free part of the needles, immediately ceases, whenever the poles are connected with any part of the needles covered with the isolated coating, and recommences as soon as the wires and needles communicate without its intervention, a convincing proof that the method is good. We may also use an enamel, or a china or stoneware glazing. 'Next of the mode of placing the needles. In my experiments on the blood, the occurrence of coagulation was found to be most ready when the extremities of the needles were crossed; this, therefore, is the arrangement to be adopted; and when the aneurismal sac is of considerable size, we should multiply the points of coagulation, so that the nuclei formed at different points, may finally pass into one common clot.'

"Thus I obtain the rule from experience, that we should insert the needles at opposite points for their better correspon-

dence; that we should give them a direction obliquely or perpendicularly opposed to the current of the blood to interrupt it; that we should cross them, to render their effect more energetic, and increase their number in larger aneurisms, to obtain at once a good number of clots, to afford as it were a framework for the general coagulum; lastly, that it is advantageous to change several times the direction of the currents, in order that the galvanic influence may act in every direction, and thus produce a multitude of filament stretched out to form the basis of a thread of coagulum amidst the mass of the contained blood."—Pp. 737, 738.

The first case in which M. Petrequin succeeded, was an aneurism of the temporal artery, the effect of an injury sustained by a fall from a height. The application of the galvanic current, according to the rules above stated, was kept up for ten or twelve minutes, and at the end of that time the pulsating tumour had become changed to a solid mass: moistened compresses were applied and retained with some turns of a bandage, and the hard knot quickly disappeared.

His second case was an aneurism at the bend of the arm, the effect of venesection. In this case, some amount of coagulation was produced, but, owing to the cowardice and unmanageableness of the patient, the attempt was finally abandoned.

In studying the phenomena of coagulation by a galvanic current, M. Petrequin recommends milk to be employed rather than blood, as affording greater facilities for the exact observation of the circumstances which favour or retard the effect; and the result of his observations, on the best kind of galvanic apparatus for the purpose, is, that a columnar pile, composed of separate small pieces, the number of which can be augmented at pleasure, with bits of cloth interposed moistened with solution of muriate of ammonia, answers best. The importance of attention to all the particulars that can be collected from the cases in which success has been obtained, will be obvious to all those who have in any degree engaged in galvanic experiments.

M. Petrequin next refers to the brilliant success obtained by Ciniselli of Cremona, in a popliteal aneurism, by following the rules laid down by him.

Our author's next case is also an aneurism of the bend of the arm, following venesection; the chief particulars of which are as follows:—

"The patient was an assistant in pharmacy, aged 30, affected with hypertrophy of the heart, whose brachial artery was wounded in venesection, whence a primitive false aneurism resulted. Some months afterwards he applied to M. Petrequin. The aneurismal tumour was then larger than a hen's egg. It was the seat of active pulsations synchronous with the stroke of the heart. By compression of the humeral artery the size of the tumour was diminished, and the pulsations became less evident. M. Petrequin, in the first place, adopted some treatment directed to the mitigation of the symptoms resulting from the disease of the heart.

"In three weeks the galvano-puncture was resorted to: four needles about three inches long were inserted at four opposite points of the tumour, so that their extremities crossed within. The galvanic apparatus used was a pile composed of sixty plates about three inches square, the interposed pieces of cloth being moistened with a solution of sal-ammoniac. The brachial artery was compressed so that the pulsations in the tumour ceased. Two of the needles were then brought into communication with the poles of the apparatus by means of brass wires wrapt round with silk at the points where they were handled. The galvanic current was very intense, and gave brilliant sparks at intervals. The shocks were violent, the patient being held by the assistants.

The tumour at first diminished in size: then it seemed to become tense and red, without any increase of density. The patient complained of a burning heat at the points where

the needles were inserted, and around each there was a slight cauterization. In ten minutes the density of the tumour began to increase; there were evidently nuclei of coagulation already formed. The current was still kept up alternated through each pair of needles. In fifteen minutes the tumour felt hard, and no pulsation was discoverable even when the artery ceased to be compressed. For five minutes more the current was kept up, and then the needles being removed, compression was applied to the artery, and a bladder filled with ice placed on the tumour. For the first few days the tumour progressively diminished, without any unpleasant occurrence—then inflammation of the aneurismal sac arose, accompanied with dull pains. The punctures made by the needles showed black sphacelated points, rendering a fetid pus, and small blackish masses, the debris of the coagulated blood in a semi-organized state. Thus, the sac became inflamed and suppurated, emptying itself by the apertures made by the needles. The suppuration lasted a few days, and the exit of the pus was favoured by a slight compression. Twelve days after the galvano-puncture, it was ascertained that the tumour had completely disappeared—that there was no longer any trace of the aneurism—and that the circulation in the radial and ulnar arteries was restored. On examination it was discovered that the brachial artery was very superficial, and that a second brachial artery ran deeper and posterior to that which was wounded.

Our author ascribes the inflammatory symptoms which arose in this case, to the want of an isolating coating on the needles at the time of the operation.

M. Petrequin's next case is one of popliteal aneurism, in which the cure was effected without any unpleasant accompaniment. The needles were applied exactly as in the last case, with the exception that they were covered with an isolating coating in the middle part. The galvanic current was kept up for sixteen minutes, at the end of which time the tumour had become hard; the pulsation had ceased, and no arterial sound could be heard; the skin was neither red nor tense, except that there was a slight rose-coloured areola, of small extent, around the needles. The patient made no complaint during the operation. The tumour progressively declined in size, though, at the time of his dismissal, nearly a month after the operation, it was still of the size of a small egg; before the operation, it was the size of the fist.

The next case is also one of popliteal aneurism, which M. Petrequin cites from the Milan Medical Gazette, as treated by Favale of Naples. The cure was complete; the skin, however, inflamed and suppurated; it is not stated whether or not the middle part of the needles had received the isolating coating.

The last case contained in M. Petrequin's memoir, is one of aneurism at the bend of the arm, the effect of venesection. In this case the plan of proceeding was the same, and the success complete. The report extends only to the ninth day after the operation; but up to that time nothing untoward had occurred.

M. Petrequin suggests the employment of the galvano-puncture in some other diseases besides aneurism; for example, in varix, erectile tumours, sanguineous tumours, &c. As a sequel to our author's memoir, we present our readers with an account of the effect of galvano-puncture on varicose veins by Milani; and the paper referred to above, on the power of simple acupuncture in the obliteration of arteries. It appears there was an earlier paper on the effect of galvano-puncture in varix, by J. Bertoni, in the July number of the *Gazzetta di Milano*.

#### CLOSURE OF SEVERAL VARICES OF THE LEFT LEG, BY MEANS OF THE ELECTRO-PUNCTURE.

By Dr. MILANI, of Varese.

The patient was an organ-builder, fifty-five years of age, of a healthy and robust constitution, who went into the hos-

pital at Varese, on the 2d of August, 1846, to be cured of varix, which caused him so much pain as to prevent him from following his occupation. It had existed for four years. The whole of the internal saphena was considerably dilated, and presented ten different knots, some as large as a small nut, others about the size of a bean, while some smaller ones extended from the internal malleolus, to two fingers' breadth below the knee. The trunk of the saphena continued enlarged to about the inferior third of the thigh. A considerable knot could besides be distinguished at the external and upper part of the calf. Animated by the favourable result which he had seen to follow the application of electricity by M. Ciniselli, to a large popliteal aneurism, Dr. Milani, determined to try it in this case. Having prepared a voltaic pile of twenty-six discs, of about two inches in diameter, he introduced two needles into the tumour situated at the inner and middle part of the calf, and having previously applied two ligatures firmly around the leg, above and below the tumour, united the needles with two poles of the battery, by means of a copper-wire silvered over. The sitting lasted twelve minutes. The patient experienced, at first, a considerable shock, which became afterwards gradually less, with a continued sensation of pricking and burning. The tumour withered, became small, and however much the saphena and its branches were compressed above it, it could not be made to increase more in size. In its interior there could be felt with the finger a degree of hardness, especially around the needle communicating with the zinc pole. Vinegar and water was afterwards ordered as a lotion to the whole of the leg. On the fourth, the electricity was applied to the trunk of the saphena, two inches above the knee, but the number of the piles having been increased to thirty-one, and the patient, not being able to support the shock, five were removed. In the third application, made about the middle of the leg, the wires were passed through the eyes of the needles. There were twenty-four pairs of plates; and they were allowed to act for fifteen minutes, in which time there were formed clots which extended two or three inches upwards, along the saphena, in the form of firm cylinders, and of unequal hardness. The fourth application was made to a varix higher up than the former. In four minutes hardness could be felt in the tumour, chiefly around the zinc needle. In nine minutes, the clot extended a finger's breadth towards the lower part. The sixth, seventh, eighth and ninth applications lasted fifteen minutes, and gave the same results. In the last application, the needles were fixed in two neighbouring tumours. In eight minutes, clots were formed around the zinc pole, but the blood remained fluid around the copper pole. It was then determined to change the needles, introducing the first in the place of the second, and *vice versa*. In seven minutes, the other tumour, of the size of a filbert, was also closed up. At all the other times, it was only the zinc needle which offered any resistance in withdrawing it, but this time also the copper one was the same. By these means, the whole of the varices had disappeared in ten days.

Although the two points of the needles never touched each other, and sometimes were placed at a distance of an inch from one another, there never could be prevented from taking place a superficial cauterization of the skin, in the form of an areola around the two needles, always larger around the zinc one. Not even a plaster of wax, having only a small hole for the penetrating point, could prevent this occurrence. The treatment was supposed to be assisted by fomentations along the whole of the leg.

A varix of the size of a goose-egg, on the internal malleolus of the left leg of another patient, was filled with clot after two applications, and diminished to two-thirds of its size.—*Monthly Journ. Med. Sci.*, from *Gazzetta Med. di Milano*, 29th Aug., 1846.

## MIDWIFERY.

## CHARACTER OF THE BLOOD IN MALIGNANT AFFECTIONS OF THE UTERUS.

It has long been a matter of uncertainty whether in cancerous disease the blood undergoes a peculiar and constant change in its composition or its quality. The subject is one of considerable importance, and has latterly engaged the attention of Heller, who has examined carefully both the chemical composition and the microscopical characters of this fluid, in persons affected with carcinomatous diseases. It has been recently stated by Engel that the blood in cancer undergoes a pathological change which consists chiefly in the development of an excessive quantity of albumen, whilst in tuberculous diseases the fibrine is the element which is in excess both in the blood and in the morbid material poured out. This statement, however, is in the opinion of Heller merely hypothetical, and is based on evidence furnished by no direct chemical analysis, which alone can determine the question. Heller therefore took advantage of several cases of malignant affection of the uterus and vagina, which fell under his notice, and he examined carefully the blood passed by flooding, as also portions drawn directly from the arm. Omitting the particulars of the various cases, the general results only to which his researches led him, need be here stated.

His microscopical examination of the blood proved the following chief points: 1st. That the blood corpuscles in cancerous disease always present a great variety in their size, some of them being smaller than natural, and others considerably above the average size; some are even three times larger than ordinary. The smaller ones are usually finely indented, granulated, or mulberry-like; the larger ones invariably smooth. This variety in size of the blood corpuscles, though always present in the blood in cancerous disease, is not peculiar to this kind of blood, for it also occurs in blood which contains pus. 2. That when blood is examined according to the method employed for the detection of pus in it, peculiar cells may be found in it, which correspond in form and other peculiarities to the ordinary cells of cancer. This is a fact which had not been hitherto made out, but about which there is now no doubt. 3. That in addition to the above peculiarities, there are observed by the microscope minute bodies of a more or less crystalline form, and possessed of a bright golden-yellow metallic lustre, which are most distinctly seen on darkening the field of the microscope. When viewed by transmitted light they appear in part colourless or yellowish, and in part of a bluish tint, showing a play of colours. These peculiar glittering particles may in most cases be distinguished with the naked eye after the blood has coagulated, appearing either as golden pellicles in the clot, or as glittering particles floating in the serum.

The chemical analysis of the blood furnished results equally decided in their nature. In the first place there was observed a constant, absolute, and relative increase in the quantity of fibrine, both in the hemorrhagic blood as well as in that withdrawn by venesection. The quantity of fibrine varied, and this variety was most marked in the metrorrhagic blood; sometimes in this latter the quantity amounted to as much as 13.42 parts in 1000: in one case even to 16.44 parts. In the blood drawn from a vein the quantity was always above natural, yet seldom greatly exceeded three parts in a 1000. On comparing the quantity of fibrine in the blood discharged by hemorrhage from the uterus with that in the blood drawn by venesection, it would seem as if nature was endeavouring to get rid of a portion of excessively fibrinated blood by a spontaneous discharge from the uterus of blood loaded with fibrine. The albumen was present in its normal quantity, or if anything rather below it, so that there are no grounds for regarding the cancerous diathesis as an albuminous one, or for considering the cancerous material as composed of albumen. The quantity of blood corpuscles was always very small, both in the hemorrhagic blood as well as in that drawn from a vein. Sometimes the diminution of corpuscles was so great that complete anæmia of the body was found after death.

The view, therefore, that the cancerous diathesis, is an albuminous one, and therefore opposed to the tuberculous diathesis, which is a fibrinous one, is completely erroneous, for the quantity of fibrine in the blood in cancerous affections is always in excess and the diathesis therefore in such cases should be regarded as a

fibrinous one, just as it is in tuberculous disease, where also an excess of fibrine (together with a diminution of red corpuscles), prevails in the blood.

This is another argument against the view of antagonism, which has been stated, though without good foundation, to exist between the cancerous and tuberculous diathesis.—*Lond. Med. Gaz.*, from *Heller's Archives*, 1846.

## VOMITING OF PREGNANT WOMEN.

Dr. Stackler has communicated to the Medical Society of the Bas Rhin, two cases of obstinate vomiting, in pregnant women, in which the symptoms yielded to the black oxide of mercury, given in the dose of five centigrammes (three quarters of a grain) daily. There was not the least trace of salivation, nor any other inconvenience, after the use of this medicine. Dr. Jauger referred to cases of hysterical convulsions, and vomitings, sympathetic with the condition of the uterus, which had been cured by the black oxide of mercury. According to the physician, the medicine is equally appropriate in irritated states of the organ, whether in pregnancy or otherwise. Should further experience confirm this property of the black oxide of mercury, its importance will be readily comprehended by those who recollect how extremely severe are the obstinate vomitings with which females are occasionally attacked during gestation. Professor Forget took occasion of the communication of Dr. Stackler, to quote the case of a woman, who had been reduced to the last degree of emaciation by these nervous vomitings, and, at length, died, during the sixth month of pregnancy.—*Prov. Med. and Surg. Jour.* July 1, 1846, from *Gaz. Med. de Strasbourg*.

## MATERIA MEDICA AND PHARMACY.

## OBSERVATIONS ON COLCHICUM.

By M. DONOVAN, Esq.

The effects which colchicum produces on the human body are now well ascertained, although the mode of preparation, and the parts of the plant to be preferred, are not yet agreed on. Some prefer the dried bulb, some the recent bulb; one employs the wine of the bulb, another the vinegar of it, another the extract made by evaporating the vinegar; the oxymel has even been a favorite; but the seeds appear to be most generally approved of.

Before the grounds of preference can be understood, it is to be inquired how far the drying of the colchicum bulb interferes with its powers. Analogy tends to render it probable that the efficacy is impaired. Other bulbs, as garlic, onions, leeks, &c., are not only altered by drying, but rendered altogether destitute of these stimulating qualities for which they are valued. Squill, it is true, is not rendered powerless by drying, but its activity is certainly lessened. Dr. A. T. Thomson says:—"The acrimony on which its virtue depends is partially dissipated by drying and long keeping, and completely destroyed by any heat above 212 deg." If the colchicum be injured by drying, how much more so must be the acetous extract, in the preparation of which, unless a steam bath be employed, the heat rises above 212 deg. The vinum colchici of the three British pharmacopœias is made from the dried bulbs, and therefore must be of inferior efficacy.

I believe the most efficacious preparation of the bulb is the wine produced from it in its recent and undried state, as recommended by the late Sir Everard Home, who published three papers on it in the *Philosophical Transactions* for 1816 and 1817. In these papers he has given an account of its preparation, and of its effects, therapeutic and physiological. He directs two pounds of the recent bulbs, undried, to be macerated with twenty-four ounces of sherry wine in a gentle heat for six days.

He convinced himself by repeated trials, that this vinum colchici operates in every respect like the eau medicinale in removing the pains of gout. In his own case the symptoms disappeared in six hours after taking the remedy; but with other persons they did not go off for twelve hours, or even twenty-four. He found that, like the eau medicinale, it diminished the frequency of the pulse 10 or 20 beats in a minute, in twelve hours after taking the dose; and this he considers the criterion by which we may ascertain that the constitution is under its influence.

With regard to the *modus operandi* of colchicum, he conceives that it produces its effects on the circulation, and not on the stomach. This he ascertained in the following manner:—Thirty drops of colchicum wine were injected into the circulation, through the jugular vein, of a dog. The pulse increased 40 beats in a minute, and intermitted: in seven hours, he had a motion, and was well. In another experiment, the same dog got a double dose by the jugular, which produced much languor; but he recovered.

He says that the effects on the dog were the same as on himself. In a violent fit of gout, he took sixty drops of eau medicinale, which he considers the same as wine of colchicum. He soon became hot and thirsty; in three hours, the pain was much diminished; in seven hours, nausea came on; his pulse, which was naturally 80, fell to 60, and intermitted; and he became languid; but next day he was quite recovered.

In another experiment Sir E. Home injected 160 drops of colchicum wine into the jugular of a dog: the animal instantly lost all power of voluntary motion; the breathing became slow; and the pulse was scarcely to be felt. In two hours, the pulse rose from 80 to 150. In five hours after, he became very languid, and the pulse was very weak: he vomited some bloody mucous and died. The stomach and duodenum were found in a high state of inflammation. These facts Sir E. Home conceives to prove that the effects are exerted on the circulation, and not on the stomach, in the same way as every poison is known first to enter the circulation, before it specifically affects particular parts.

At the suggestion of Sir E. Home, these experiments on dogs were repeated, with eau medicinale in place of colchicum, by Mr. Gatcombe: and the results were nearly the same; which is a still further evidence of the identity of these two medicines.

The colchicum bulb, Sir E. Home says, contains both extractive and mucilage, both of which wine, in the first instance, takes up; but when the liquor is strained and allowed to stand, a considerable deposit is almost immediately separated.

This deposit he found to be not only active but virulent; six grains of it given to a dog, by the mouth, produced vomiting and purging which continued for twenty-four hours, the latter evacuations of both kinds being tinged with blood.

Coinciding with the supposed identity of the eau medicinale, which also lets fall a deposit, Sir E. Home concludes, from some experiments, that this remedy, when it contains the deposit suspended in it, produces double the irritation on the stomach and intestines that the clear vinum colchici does. He found that in an instance where he took a dose of eau medicinale, without having shaken the bottle, it was mild in its effects; but that the other half, which contained the deposit, when swallowed, on a different occasion, was very severe.

When the deposit is separated from wine of colchicum, he found that it by no means becomes inert. On the contrary, the filtered wine cured a person, on whom it was tried, of a fit of the gout, as well as if it had been in it.

These facts are of great importance, and require to be attended to in the use of this medicine; for we can separate the vomiting and purging portion from that portion which only exerts a specific action on the gout, by removing the

deposit from the eau medicinale or colchicum wine according to the conditions of the patient's case; and this is more necessary in the use of the eau medicinale, as its violence has in some cases proved fatal.

The sale of eau medicinale was some years since prohibited in France on account of a nefarious use to which it had been applied.

The deposit is most probably, as Sir E. Home and Mr. Brande suppose, a substance analogous to the deposit which settles from the juice of the wild cucumber named elaterium. This once separated, the juice becomes, like the filtered colchicum wine, mild in its operation.

Sir Joseph Banks, convinced by the evidence contained in these papers of Sir Everard Home, that the vinum colchici, from which the deposit has been removed, must be a less hurtful medicine than the eau medicinale, thought it a duty to himself and the public to make trial of it. When the gout in his left hand and in the joints of that side of the body was very severe, he allowed Sir Everard Home to give him ninety drops of the vinum colchici, and found that the symptoms of gout were sooner and more completely removed than they had ever been by the eau medicinale of which he had experience during seven years, having taken it regularly, and kept a regular account of the doses, their effects, and the intervals between them.

When the variable strength of the different preparations of colchicum, arising from age, climate, soil, season, and manipulation is considered, it becomes a question whether it might not be better to reject them all, and to introduce exclusively into the materia medica the active principle of the plant. Indeed this idea has been already acted on in Italy. Professor Quadri recommends the employment of a proximate principle discovered by him in colchicum, which he calls colchicina, and which he found most useful in gout, and less inconvenient than the bulb.—(*Annali Universali di Medicina da Omodei* 61, 410.) The production of known effects from a known dose would thus be as certainly ensured as in the case of any other medicine. Another advantage would be that inasmuch as the true antarthritic powers of the bulb cannot be always brought to bear on the disease on account of the veratria, which Pelletier and Caventou proved it to contain, we could then increase the dose without any second source of apprehension.

Colchicina possesses great energy. MM. Geiger and Hesse administered one-tenth of a grain to a cat, eight weeks old, which killed the animal in twelve hours, after varied and excessive suffering. The stomach and intestines were found violently inflamed.—(*Journal de Pharmacie*, xx. 164.)

Until this change is made, the best preparation of the bulb is undoubtedly Sir Everard Home's wine, made from the fresh bulb, dug at the end of July, sliced thin, and the slices, as fast as cut, instantly thrown into the wine.

It is a common practice with physicians, in this country, to direct wine of the seeds of colchicum in their prescriptions, as if it were official in our pharmacopœias. But no such preparation is in them; and the misconception, so very general on this subject, is productive of much uncertainty and inconvenience to the apothecary. The vinum colchici of the pharmacopœias, as already remarked, is made from the dried bulbs, not from the seeds: from the latter, a tincture is made, and as it is one of great power there ought to be no confusion connected with it.

I have known the seeds beaten into a mass with mucilage (a work of no small labour) and formed into pills, to act as a brisk cathartic, and to give complete relief in facial neuralgia.

The acetum colchici of the pharmacopœias, neutralized with magnesia, and holding dissolved some sulphate of magnesia, is recommended by Sir C. Scudamore, in his treatise on Gout, as the best formula. He says the combination is offensive to the stomach, and certain in its effects on the

bowels. The dose recommended by him is half a drachm to one drachm and a half; and this he says never produces constitutional nervousness. I have taken two ounces, however, of the aectum colchici, within six hours, at two equal doses, without any other result than an intermitting pulse. A gentleman labouring under gout, took, on my assurance of the feebleness of this preparation, no less than eighteen drachms of it, in divided doses, every day, for six days, without any obvious effects.

Should Sir Everard Home's wine of colchicum ever come into use, and his authority ought to be sufficient warrant for its introduction, the apothecary should keep it in two states, one with the deposit, and the other without it.—*Dublin Medical Press*.

## ON EXTRACT OF INDIAN HEMP.

*Transactions of the Pharmaceutical Society.*

By ANDREW ROBERTSON, Esq., Professor of Chemistry to the Medical College, Calcutta.

A number of pounds of the extract of hemp were prepared by me—I think upwards of thirty in all—for the purpose of having its medical properties fully tested by European medical men. A quantity went to Paris, another to Berlin, another to London, sent by different parties, and for my share of the matter I sent four pounds of it to Scotland, part of which went to you. I do not care about making more of it, as its preparation is most tedious and troublesome, in which I was tormented by the excise regulations of the country, for both the plant and the spirits used are the subject of heavy duties and stringent precautions, and the cost price of the extract to me, counting nothing for trouble, was fully 15s per lb. Dr O'Shaughnessy made his extract with alcohol, in a Papin's digester, at a heat above the boiling point of alcohol—the extract so obtained is brown; mine is of a deep green, and gives a grass green tincture to alcohol, and has six times the activity of the brown, as ascertained by trial on hospital patients. If a speedy effect is desired it is given as a tincture; if a deferred and protracted, as a pill.

As the process by which it was prepared is an idea of my own, since copied by others, and which probably may be claimed by them afterwards, I may mention it to you. It is a variation of the process of percolation, alcohol in vapour being the agent. A still was charged with strong spirits, and its nose introduced into the side of a cask in which the plant was pushed.

The vapour of the alcohol, and alcohol at a boiling heat thus acted on the plant, instead of cold alcohol in the usual mode of percolation. First issued a thin, larry matter containing much resin latterly, a brown liquor containing little resin but much extractive. At this point water was substituted for the spirit in the still and as much as possible of the spirit retained by the plant thus expelled from it. From the bottom of the cask a pipe led to a common condensing worm. Part of the alcohol was recovered from the fluid by distillation, the rest dissipated by evaporation in Wedgewood ware on a sand-bath not exceeding the temperature of 150 deg. Fahr. One hundred weight of the plant was used at one operation, and about eight pounds of extract obtained. The operation was conducted so slowly in all its stages as to last a fortnight.

The extract of hemp has long been known in the East, in a most widely extended range of countries, under the names of Gunjah, Churrus, Hashish, Beng or Bang, the emerald cup of Haider, &c., and under every name renowned for its exciting and narcotic qualities. It is used by the natives here in the same way as opium is by the Chinese, and on that account is the object of fiscal regulations and duties. It is known throughout all India, Arabia, Syria, and Egypt. You will find it in the *Arabian Nights*, translated by Lane, under the name of Beng, as the narcotic used by Haroun Al Rashid, and others. There cannot, therefore, be a doubt that it is a drug nearly as active as opium.

The inactivity of the drug, therefore, prepared in Britain I can attribute only to faulty preparation and overheating or to its being made from old and decayed plants. The good plant is of a greenish brown, the heads loaded with a sticky resin; the bad is palish brown and does not adhere to the fingers. The good ex-

tract gives a grass-green tincture, the bad a brownish. My extract was made from dried plants of good quality, as it cannot be readily obtained fresh in Calcutta.

Mr. Fordrod stated, that it had recently come to his knowledge that some of the extract, sold in London as extract of Indian hemp, was made from the plant grown in the neighbourhood of London, and he believed possessed but little, if any, of the narcotic properties of the Indian plant. The extract made from the hemp (*Cannabis sativa*) grown at Mitcham, was of a green colour, and being apparently an aqueous extract contained but little resin, while that prepared from the plant grown in India contained a large proportion of resin. He thought it important, as many medical practitioners in different parts of the country were trying the efficacy of this remedy, that they should be cautioned to be particular in obtaining the extract of the Indian hemp.

Mr. Redwood said, that much of the extract made from the hemp plant imported from India, as well as the extract which had been imported ready made, was found to possess but little narcotic power when tried in this country; certainly they had not realized the expectations which were formed from the accounts of its action given by medical men in India. Dr. O'Shaughnessy, when last in this country had admitted that the extract, even some that he had brought from India himself, had failed to produce the effects he anticipated when tried in our hospitals; and he had undertaken, on his return to India, to have some extract very carefully prepared, and sent over to this country. Mr. Squire had received a quantity of this extract, and he presumed it was that alluded to in the paper just read, as having been made by Mr. Robertson.

Mr. Barlett had witnessed the effect of a very small dose of extract of Indian hemp, obtained from Mr. Squire, on one of his assistants, and the action was that of a powerful narcotic. The young man stated that he felt all the symptoms of intoxication.

Dr. Ure had been recommended the use of the extract of hemp by his son; but although he tried it for some time, he never experienced the slightest effect from it. The extract was the same as the above, having been obtained from Mr. Squire.

The Chairman thought that the present state of medical knowledge, in reference to the action of Indian hemp, was very unsatisfactory and imperfect.—*Dublin Med. Press*.

## UPON THE EFFICACY AND MODE OF ADMINISTRATION OF BELLADONNA AND ATROPIA.

By W. R. WILDE, M.R.I.A., Surgeon to St. Mark's Ophthalmic Hospital.

One of the greatest improvements in the oculist's materia medica of late years has been the introduction of the alkaloid denominated Atropia, which, we believe, we were the first to introduce into practice in this city, upwards of two years ago. It was procured for us by Messrs. Bowley and Evans, who have solutions of it according to our formulæ, of the following strengths: one grain, two grains, and three grains to one drachm of distilled water, and three drops of spirits of wine, and numbered 1, 2, and 3. The salt is rendered soluble by the addition of a drop of dilute nitric acid, and the spirit is added to make the solution keep.

A single drop of number 1 placed upon the conjunctiva of the lower lid (where it causes neither pain nor irritation,) in a healthy eye, dilated the pupil, in a period of time varying from five to fifteen minutes, to double, or even more than the ordinary medium size, and will retain it so, upon the average, from four to five days; at which period it generally begins to contract, but the pupil does not fully regain its previous size, nor the iris its mobility, till the sixth or seventh day. There will be, no doubt, exceptions to this rule, particularly in cases where there may be such an idiosyncrasy present as would render the eye susceptible to the action of the atropia belladonna used in any form, and perhaps keep the pupil permanently dilated for months. To counteract this effect of the solution number 1, we have employed upon the second and third day after its application those remedies which generally excite the pupil to contract, such as sudden exposure to strong light, the application of electro-magnetism, the use of opium, and the application of the vinous tincture of that medicine upon the conjunctiva; but each and all these means failed to lessen the size of the pupil, in many instances, until the



end of the third, or fourth, or fifth days. Solutions number 2 and 3 produce a more decided effect upon the iris, and in a shorter space of time, and retain the pupil dilated for a long period—even to the eighth or tenth day. When the object is to keep the pupil in a state of permanent dilatation, as in cases of iritis and aquo-capsulitis, as well as to try and break up recent adhesions between the iris and lens, or to withdraw the iris from protruding through an aperture caused by a wound or ulcer near the centre of the cornea; in all cases of central cataract; where the cornea is opaque in its central portion, or that a portion of the pupillary margin of the iris is attached to the back of the cornea, after the distension of a cataract; or, in fact, in any case in which we wish to produce permanent or complete dilatation of the iris, the solution of atropia will be found much more efficacious than the usual mode of applying the extract of belladonna externally. It is, moreover, much more cleanly, and is not liable to the objection urged against the latter, of producing an unpleasant eruption around the brow on which it is applied, and it is preferable to the ordinary mode of placing a few drops of the solution of the extract between the palpebrae, inasmuch as it causes no pain nor irritation.

In cases, however, where there is much conjunctivitis, or even deeper seated inflammation, attended with lachrymation, present, it does not possess the immediate and marked power over the iris which it does in the healthy eye, and its effects pass off much sooner; and this remark is applicable even to the three-grain solution. It is possible that in such cases the mucous discharge, and particularly the lachrymation which is present, may dilute it too much, or the morbid irritability and increased vascularity of the organ may render it less susceptible of the local application of this remedy than it would be in an otherwise healthy condition, therefore, in cases of violent iritic inflammation, the syphilitic, for instance, where the disease had considerably advanced, and extensive exudations of lymph had taken place, we would not solely depend upon the atropia solution, but likewise apply the extract round the orbit. In cases of recent protrusion of the iris through the central portion of the cornea, the result either of injury, or rupture from ulceration, &c., and when there was no great irritability and blepharospasmus present, we have applied the strong atropia solution externally, by means of a small portion of linen rag wet with it, and retained for a short time upon the closed eyelids, with the most happy results.

We may here remark that the benefits arising from dilatation of the pupil have not been sufficiently attended to in the general treatment of ulcers of the cornea. We have, on several occasions lately, been able not only to save the eye, but even to prevent adhesions between the cornea and iris (*synechia anterior*), and consequent blemish, by means of the judicious application of the preparations of belladonna. In cases of rupture from ulceration, when we have seen the patient shortly after the rupture occurred—and in many of those instances hernia of the iris had absolutely taken place—we at once applied the atropia solution, closed the lids, kept them in that condition with isinglass plaster, and then applied a large pledget of lint smeared with the extract of belladonna over the eye and brow, and retained it in position by a light bandage, at the same time that we employed, when necessary, local depletion by means of leeches on the temples and over the malar bone, together with blistering, and constitutional treatment calculated to lower the inflammation and prevent the further spreading of the sloughy or ulcerative process in the cornea. We keep the eye covered up in this state for thirty-six or forty-eight hours, and have had, in most instances, the satisfaction of finding, when we came to examine the eye, that the iris had been withdrawn from the wound, the pupil had dilated, and the cornea had united.

There are, however, certain cases in which the use of atropia is inadmissible, namely, in examining the eye for cataract, where we do not wish the dilatation of the pupil to continue longer than a few hours, if possible. In cases where we wish to dilate the pupil before we perform the operation for absorption of the lens, we have more than once seen unpleasant consequences result after this manner. It is well known to operative ophthalmic surgeons, that after the dilatation with the ordinary belladonna extract or infusion, the iris will, during the operation of keratonyxis, partially contract, either from the loss of a few drops of aqueous humour, or from its irritability being excited by the side of flat of the needle touching the margin of the pupil, or from

the cataractous lens, whole or in a broken condition, pressing against it: and this condition is rather serviceable than otherwise, for should the lens be inclined to start from its bed, and press forward through the pupil into the anterior chamber, the iris acts as a partition to keep it in its place; while in a few hours the aqueous fluid is regenerated, the iris falls back into its natural position, and can afterwards be kept dilated by the continued external application of the belladonna.

If, however, the pupil has been previously dilated by the atropia, it is thoroughly immovable, and the lens is liable either to press into it or become dislocated, and get into the anterior chamber. This latter accident occurred to us some time since, in breaking up the lens for congenital cataract. We had ordered a solution (No. 2) of atropia to be dropped into the eye the night previously, and on arriving in the morning we found the iris reduced to a mere ring. The child struggled a good deal, and a few drops of the aqueous liquid were lost during the operation, which consisted in a mere crucial incision into the capsule. On withdrawing the needle we remarked that there was no contraction of the pupil, into which the lens pressed. On visiting the child in the evening it had been so uneasy and complained so much of pain, and there was so much lachrymation present, that we were induced to remove the bandage and examine the eye. The cornea was found to have become plump, from the regeneration of the aqueous fluid, but the iris had remained immovable, and the lens had started into the anterior chamber, where it caused considerable irritation and subsequent inflammation. It absorbed completely, however, without a second operation, and in a much shorter time than usual.

In cases of photophobia following cataract and other operations on the eye, and attended with myosis, which had resisted the continued external application of belladonna, as well as the strong atropia solution dropped into the eye, we have found the most marked beneficial effects result from the internal administration of the extract of belladonna, given in the form of solution, to the amount of the sixteenth of a grain, from three to five times a-day. This, in the course of thirty-six or forty-eight hours has seldom failed to relieve the pain and intolerance of light, and also to dilate the pupil as far as possible.

In neuralgic affections of the eye, characterised by pain of a burning description coming on at a particular, and often regular intervals, sometimes at particular hours of the day, yet induced by reading or using the eye in any fine work, and unattended with inflammation or any apparent alteration in the texture or motion of the organ, &c. &c., in which rest, change of air, tonics of various descriptions, particularly iron, and other means, had failed, we have latterly administered belladonna internally, with the very best effect, in doses varying from the sixteenth to the sixth of a grain three times a-day, given in the form of a solution. It may appear strange, but it is nevertheless true, that in some cases of old and inveterate photophobia, as in that form accompanying pannus, or the ophthalmia attended by vascular cornea in discharged soldiers, the internal use of belladonna will be found most efficacious.

We quote the following from a recent Number of the *Gazette des Hôpitaux*: "For a long time M. Berrard has employed in his practice at La Pitie, in place of the extract of belladonna, collyria containing the active principle of belladonna, atropia. This substance, signalized for the first time by M. Brandes, who had not, however, obtained it in its pure state, but since isolated by MM. Meire and Seines, presents many advantages over the extract of belladonna: first, by acting with extreme rapidity in dilating the pupil, and by being endowed with great energy, sufficient to produce its effect in a solution of 0.05 or 0.10, in twenty grammes of distilled water, possibly a consideration of little importance in an hospital, but of great value in private practice in enabling one to avoid the employment of black unguents, which disfigure so much, and for which some patients, particularly females, have a great repugnance."—*Dub. Quart. Journ. of Med. Science*.

#### METHOD OF MAKING LEECHES BITE.

Dr. Boursier says, that by placing leeches in a mixture of two parts of wine and one of water, they are in a few minutes very active, and take hold instantly; and that if they are gorged with blood, they disgorge themselves and will draw again.—*Journ. de Chimie Méd.*



## MISCELLANEOUS.

## COMPENSATION FOR POST-MORTEM EXAMINATIONS.

In our last number, p. 533, will be found the opinion of the Hon. Judge Ellis Lewis, affirming the right of a physician to compensation for making a post-mortem examination at the request of a coroner. We now lay before our readers the opinion of Chief Justice Gibson, as delivered in a case recently tried at Pittsburgh, in the Supreme Court of the Western District of Pennsylvania.

Dr. George Watt, of Pittsburgh, was called upon by the coroner, in two separate instances, to make official examination of dead bodies, upon which inquests were held.

For this service he charges the county fifteen dollars in each case; the County Commissioners declined to pay the bill, on the ground that the coroner had no power to contract for the county in such cases, and that no compensation for such services had been provided for in the fee bill by the legislature; and that they had no power to pay out the county funds, except where expressly empowered to do so by act of Assembly, and that there was no precedent to justify such an expenditure, and resisted the payment that the matter might be litigated and the question settled.

The Doctor then brought suit, and obtained judgment before an Alderman, and afterwards in the Court of Common Pleas; the cause was then removed by the Commissioners, by writ of error, to the Supreme Court, which Court affirmed the judgment of the Court below. The cause was conducted by Thomas Mellon and John Barton.

The following is the opinion of the Supreme Court, which was delivered by Gibson, Chief Justice.

*Dr. George Watt vs. The County of Alleghany.*—Had the plaintiff below attended merely as a witness, though as an expert, he would have been entitled to nothing; for as the law provides no compensation for witnesses summoned by the Coroner, they must give their attendance gratis; and to allow the plaintiff as a witness, even the compensation allowed to witnesses in other cases, would be an infraction of the fee bill. But he was not called as a witness. When the testimony before the inquest was closed, it seems the jurors, being unable to agree as to the cause of the death, requested a post-mortem examination, which was made by the plaintiff to their presence, who expelled their doubts by the application of chemical tests in the contents of the stomach. In this he performed not the office of a witness, but the business of a person employed in a particular service. The Coroner might have compelled him to swear to his opinion on a superficial view of the body, but he could not have compelled him to touch it, or to do the more nauseous or dangerous work of opening it. The service he performed, though necessary to the purpose of the inquest, which could not have been effected without it, was not official, and consequently not in the contemplation of the Legislature at the forming of the fee bill; so that compensation for it is neither enjoined nor prohibited by that or any other statute. But though spontaneously rendered, both justice and policy require it to be paid for by the county, if it was rendered at the public instance and request; and the question is whether the Coroner, as a public agent, had authority to employ the plaintiff at the public charge. That officer certainly has authority to pledge the responsibility of the county for the compensation of all incillary services which are necessary for the execution of his office, and which he could by no other means command.—When his duty requires him to disinter a body, for instance, he cannot be expected to do it with his own hands, or by hands paid for with his means. True he is entitled to fees, but not for mercenary services, and what he does receive is given for particular acts of official duties, not as a fund for contingent expenses. To the taking of every inquisition *super visum corpus*, perhaps without exception, a post-mortem examination is indispensable, and as the fees of the Coroner would be inadequate to the expense, if he was willing to forego compensation for his own services, either the public purse must pay for it, or the administration of public justice must suffer for the want of it.

And why should not the county pay for it?—On the principle of the Commissioners *vs. Hall*, 7 Watts, p. 290, the county would be liable for the medical treatment of a person taken ill upon trial, or as a juror in the box; and it would be strange if it should

not be equally liable for professional services in the administration of public justice by the coroner, who is also a judicial magistrate, and competent at the common law, though the power has been taken away by statute, not only to receive accusations but to try them. Even prisoners in the county jail are provided with medical treatment, though the statute does not expressly direct them to be provided with anything but clothing and food; yet they are supplied with bedding, fuel, and all other comforts proper for their condition.

There are a thousand contingent items of expenditure which cannot be disposed of specifically in a fee bill by special appropriation, and which must necessarily be charged to the account of humanity or justice. The coroner in this case had as much authority to order a post-mortem examination at the public charge, as the Court had to order boarding and lodging for the jury in the case of Commissioners *vs. Hall*. Each was employed in taking an inquisition of death, and each have the same collateral power in things incidental to the office. The plaintiff having been employed by the coroner was employed by the county; and he is entitled to a reasonable compensation. Judgment affirmed.—*American Journal of Medical Science.*

## ENCOURAGEMENT OF QUACKERY BY MINISTERS OF THE GOSPEL.

The patronage and encouragement which quackery receives from ministers of the gospel, has often been made the subject of comment, and of severe animadversion, by medical writers; and its continuance is no less a matter of surprise than regret to those engaged in the cultivation of medical science, and in laudable endeavors to ameliorate the condition of suffering humanity, and to prolong the period of human life. That the conduct of ministers, in this respect, is loudly complained of by the profession, is to be attributed to the facts—first, that from the nature of their calling, and the position which they occupy in society, they have it in their power, and actually “do us much harm,” and science an irreparable injury, by encouraging quackery; second, as they are, generally speaking, men of education, and not unfrequently of science, we have a right to expect better things at their hands; and, third, as ministers and their families are usually attended gratuitously by the faculty, we think it is but reasonable to expect that they will refrain from doing that which is positively injurious to us as individuals, as well as to the profession we practice.—No body of men in our country occupy so enviable a position as do all classes of religious teachers; enjoying, as they do, a prescriptive respect, and being ranked, by common consent, as high as a lady, and above a man. They are looked up to as examples, and their counsel sought, and their advice taken, in secular as well as in ecclesiastical matters, while the sanctity of their calling gives enhanced value to their opinions on whatever subject they are expressed. That such is the case, we rejoice rather than complain, and would not have it otherwise if we could; for no one has a higher regard, or a more profound respect for the persons of ministers, or for the clerical office, than we have; nor has any one better reasons for entertaining such feelings towards them; and we cheerfully admit, that the immense influence which they wield is, generally speaking, exerted in the most decidedly salutary manner. But we are utterly at a loss to know why it is that their conduct, in reference to the most humane of all pursuits—one so near akin to their own calling—should prove so noted an exception; why it is that, so far as medicine is concerned, they are stumbling-blocks in the way of science, and patrons of superstition, error, falsehood, and humbug! In the remarks, therefore, which are to follow on this subject, while we shall speak with all that plainness which the importance of the subject demands, we are influenced by no other feelings than a sense of duty and a regard for truth and science.

That we are correct, then, in the position which we have

assumed, to wit:—that the hydra-headed monster—quackery—is encouraged, and derives increased strength, from the patronage bestowed on it by ministers of the gospel, we appeal to facts, and to the experience of all men. Scarcely is there to be found a quack nostrum advertised in the newspapers, or whose virtues are proclaimed by pamphlet, or hand-bill—claiming to be a universal panacea—which does not come recommended by a certificate from some one, or more, reverend minister, priest, or religious teacher, testifying as to its virtues, and commending it to all who may be suffering with any disease to which flesh is heir. Or, if in any community there happens to be a practitioner of Homœopathy, Hydropathy, a “faith doctor,” or a Mesmerizer, ten chances to one if the first person who employs him is not one of the reverend gentlemen above named, or, it may be, a Right Reverend himself. Such being the case—and it cannot be denied—we ask if we are not right in assuming that ministers are, *par excellence*, patrons of quackery? We do not believe, for a moment, that their object is to retard the progress of rational medicine; but such is the effect of their conduct, and the injury to science is as great, and they as culpable, as though they were actuated by *malice prepense*. Furthermore, we are willing to believe, and do believe, that in many cases they are influenced by a desire to benefit others; but they cannot, on this account, either be excused on the score of “good intentions.” Paul verily thought that he was doing God’s service, when he stood by and consented to the death of Stephen; but was he any the less guilty on that account? No. Nor are they, who, from ignorance, or from any other cause, inflict an injury on science.

Ministers of the gospel, then, do more than any other class of men to uphold quackery, and, consequently, to retard rational scientific medicine. Why is this? Is it that they are better qualified than other men to form correct opinions on medicinal subjects? We assert the contrary: and hold that they are incapable of arriving at a correct conclusion on any subject pertaining to our science. The very nature of their calling, and the course of their studies, preclude the possibility of such a thing. They have no knowledge of Anatomy, or Physiology, without which it is idle to talk of correct notions on medical subjects; and it is worse than presumption in ministers to bring their opinions on such subjects in competition with those of men who have spent long years in their study and investigation; and such conduct is only calculated to diminish, and does diminish, the respect which is otherwise due to them, and to their sacred calling. But it may perhaps be said, in reply to this, “Surely, any one, whether he be a minister or not, can tell whether a particular remedy has done him good in a given disease?” Even this we are disposed to call in question, and are prepared to show that this cannot always be done. Now, how stands the case? A *soi-disant* Solomon, who is too lazy to gain an honest livelihood by the sweat of his brow, resolves on resorting to his wits, and as medical quackery seems to be the most certain and speedy way of arriving at fortune, he determines to go into it. He accordingly throws together a number of drugs, in the shape of a pill, or mixture, and claims for it extraordinary virtues in the cure of certain diseases. He next sets to work and writes letters, lauding his remedy to the skies, and recommending it in the strongest terms to all “the afflicted”—and to these he appends such names as his fancy may dictate. But this is not sufficient: in order to complete his designs, and give his nostrum free circulation, he must have the certificate of some one, or more, individuals of acknowledged standing and influence. Such persons are to be found in the clerical profession; and perhaps knowing the very great partiality which gentlemen of the cloth have for quackery in general, he waits on the nearest minister, presents him with a box, or bottle, of his nostrum, with the request that he will use it in his own person or

family. In some slight indisposition, the remedy is employed, and recovery, as a matter of course, takes place (perhaps convalescence is retarded instead of hastened by its use); but recovery having followed the swallowing of the medicine it is, of course, attributed to it. The minister is convinced! The cure took place under his own eye; or, it may be, in his own person—how can he doubt? He, therefore, cheerfully complies with the wishes of the quack, and furnishes the desired certificate. Now, under such circumstances, how is it possible for him to say, with any degree of certainty whether nature or the remedy effected the cure? And yet he testifies that it was the latter, and the nostrum goes forth to the world with the sanction of his name, and with his solemn attestation of its superior virtues—to the encouragement of quackery, to the reproach of science, and, we will add, to the shame of the minister, and to the prostitution of his sacred office. This is no fancy sketch, but a true picture. And this is the kind of evidence on which clerical certificates are usually obtained. Do they reason so in reference to other matters? If so, how pitiable is the condition of those who look up to them for religious instruction, and take their *ipse dixit* for gospel truth?

But let us reverse matters, and put a case in point to our reverend friends (we mean no disrespect), and suppose an able and ingenious enemy of the Christian religion were to come out with a work on some theological subject, presenting a fair exterior, and purporting to be on the side of virtue and religion, but on every page of which was distilled the subtle poison of infidelity—the more dangerous, because the more adroitly disguised: suppose, farther, that, in order to recommend his work to popular favor, the author were to procure certificates from physicians in all parts of the country, stating that they had examined the work, and could recommend it to all such as were anxious to have their minds enlightened on the important subject of religion,—it cannot be denied that such recommendation would have its influence, and cause the work to enter thousands of families which it would not otherwise reach. If what we have supposed were really to take place, would not every pulpit, from Maine to Mexico, thunder forth with anthems against the medical profession? They would be charged—and justly charged—with warring against Christianity, and encouraging infidelity. It would be said—and truly said—that, upon a superficial examination of a subject with which they were not at all familiar, they had ventured an opinion to the immediate injury of true religion, but the remote consequences of which no one could foresee. The cases are analagous, and the application obvious.

We have already extended our remarks much further than we at first intended, but we cannot close without saying a few words as to the encouragement which ministers give to the practitioners of the various false systems of medicine—in other words, to quack doctors. The time would fail us if we were to attempt to enumerate all the erroneous systems, pointing out the absurdities of each: we will, therefore, content ourselves, for the present, with a single one—Homœopathy. And, in the first place, we would ask the reverend gentlemen who countenance and employ homœopathic practitioners, if they understand homœopathy, and believe in its doctrines? The fact of their employing them presupposes a belief in, if not an understanding of the system. Now, for the benefit of such, we propose to examine this system for a moment.—The great fundamental principle of homœopathy is, that infinitesimal doses of medicine—that is to say, that a grain of medicine so minutely subdivided that numbers fail to express its utter nothingness, will act powerfully on the human system! Another of the principles of this *beautiful and philosophical* system is, that a medicine, when thus minutely subdivided—for example, a grain of sulphur dissolved in one of our northern lakes; if a small quantity of the solution be collected in a bottle, that its strength will be

increased in a corresponding degree by simply shaking the bottle. Hahnemann gives minute directions on this subject, and gravely cautions his followers to be careful lest they give the bottle a shake or two too many, and thereby increase the strength of the medicine to such an extent as to endanger the life of their patient! Now, we wish to know of our reverend friends, patrons of homœopathy, if they do, or can believe these monstrous absurdities? And yet, if homœopathy be true, these things are so; and the fact of their encouraging the system implies that they believe them. But is it not absolutely insulting to the understanding of a rational man, to attempt to palm off such stuff on him for truth? He who can believe this, has no mind capable of appreciating correct reasoning, even if we had the patience or the disposition to argue with him.

In bringing our remarks to a close, we have only to say, that, while we fear there is but too much cause for their very general application, we cheerfully admit that there are many honorable exceptions. We know clergymen (and we take pleasure in stating it), who, both by their conduct and teaching, discountenance all species of quackery: devout men—men of learning and science, from whose lips we have learned lessons of wisdom and practical piety. To such our remarks are not intended to apply. McP.

—*St. Louis Med. and Surg. Journal.*

#### ILLUSTRATION OF THE QUACKERIES OF THE NINETEENTH CENTURY.

A report having been circulated that a man named William Myhill, a small farmer and carpenter, residing at Horsey, in the county of Norfolk, had died from the effects of some medicine which had been administered to him by his wife, Mr. Pilgrim, the county coroner, directed the body to be exhumed, and on the 24th of last month held an inquest at Catfield, where the body had been interred. Several witnesses were examined, but the chief evidence offered was that of the servant maid, who in a long statement deposed to her mistress having obtained some medicine of a person living at Reepham, which she administered to the deceased just previous to his death, and then requested her (the servant,) not to say anything about it to any person, but to deny it if she was asked any questions on the subject. On Friday October 2nd, the inquiry was resumed, when amongst other witnesses who were examined as to the wife having administered something to the deceased, was a Mr. Staples, of Reepham, who calls himself a chemist and druggist. He deposed as follows:—

I vend drugs and prepare them, but I do not profess to be a surgeon. Some short time since Mrs. Myhill, the wife of the deceased, came to me and stated that her husband was very bad. I prescribed for the deceased from the representation made to me by his wife. I cannot say what she stated. I made up some medicine according to the nature of the disease. I was not told what was the matter with him, but I found it out by my study, my science, and my search. I do not recollect that I ordered brandy and water, neither do I exactly recollect what I did prescribe. At the time I put it on a slate, but it was afterwards rubbed off. The medicine was to relieve the pain—it was not opening medicine. Mrs. Myhill was to have called upon me again, and let me know how her husband was, and to tell me the effect the medicine had upon him. I am perfectly satisfied that the medicine I prescribed could not do him any harm, but I did intend that it should do him good. I considered that the deceased was in a very bad state, and that I ascertained from my research in science, and study from my books of knowledge. If a person came to me and represented their case, I should not be governed by what he said, but should be governed by the rule of science and my books of knowledge. I could by searching those books ascertain more of their disease than any person could inform me. It is a very common practice with me to prescribe for persons I have never seen, nor yet had a description of their complaints. I neither want to know the name of the party, or where they come from, or any description whatever of their complaints, as I can always find every thing out by the rule of science, my study, and from my books of knowledge. If any person had come to me after the

death of Myhill, I could have stated the cause of his death, but the time is now so far gone that I cannot. He again repeated his powers of discovering the complaints of persons by the aid of his books, which was the cause of much merriment to the Coroner and the Jury, who looked with some suspicion upon the many cases [cures?] he pretended to have effected by his books, his science, and his study.

After this evidence, which put a very different aspect upon the inquiry, the surgeons, who had analysed the stomach, said that they had not been able to detect the presence of any metallic or vegetable poison; and, from the appearance of the lungs, were of opinion that the deceased died from natural causes. The Jury returned a verdict accordingly.—*Norwich Mercury.*

## CHEMISTRY.

### GUN.COTTON.

It was announced last summer by Prof. Schonbein of Basle, that he had discovered a method of producing a substance from vegetable fibre, more explosive and powerful than gunpowder, and much interest was excited at the late meeting of the British Association, by an exhibition of its wonderful effects. It has since been made by many persons in Europe and throughout our own country.

It is now well known that the "Gun-Cotton" is only a form of the Xyloidine discovered by Braconnot in 1833, and subsequently more fully described by M. Pelouze\* in 1838. The Xyloidine is produced by the action of strong nitric acid specific gravity 1.5, upon starch or any form of vegetable fibre. M. Pelouze stated (in 1838) that it was very combustible, took fire at 360°, and burnt with vivacity. He also suggested that it might, from its extraordinary combustibility, prove valuable in artillery. Prof. Schonbein and his associate M. Bottger claim therefore only the application of this remarkable substance to useful purposes, for although the method employed by them in its production has not as yet been made public, there can be no doubt that it is chemically identical with the Xyloidine of Braconnot and Pelouze. The suggestion thrown out eighty years ago by M. Pelouze, regarding its possible application in artillery, seems to have escaped attention, and to have been productive of no useful result.

The complete conversion of cotton into Xyloidine is somewhat difficult, and requires the strongest nitric acid. In principle, it is immaterial whether the strong nitric acid be procured by distillation; by mixture of sulphuric acid with the aqua fortis of commerce; or by the mixture of equivalent parts of nitre and sulphuric acid. The best action of the nitric acid is produced by mixing with it nearly its own volume of strong sulphuric acid, which by its attraction for water renders the nitric acid of the greatest strength without interfering with the result. If 100 grains of clean carded cotton are immersed for four or five minutes in a mixture of 1½ fluid ounces of strong nitric acid (Sp. Gr. 1.45) and an equal measure of strong sulphuric acid, it will be converted into Xyloidine. It is then removed from the acid, pressed with a spatula, and quickly washed in an abundance of cold water until it has no longer an acid reaction, when it may be carefully dried at about 200° F., again carded, and it is fit for use. As thus prepared, it retains the appearance and fibre of common cotton, but is harsher and more wool-like to the touch. It inflames at a temperature of about 350° F., and, as is lately asserted,† it sometimes happens that it is spontaneously inflamed at 212° F. The greatest caution is therefore required in the preparation, to avoid its accidental combustion.‡

\* Comptes Rendus, Oct. 15, 1838.

† L'Institut, No. 670, p. 367.

‡ It may not be amiss to mention in this place, that the writer and his assistant were both burned by the accidental combustion of about 1200 grains of gun-cotton, which they were drying over a hot-air flue where the temperature was probably very little above 212°. At the instant when they considered the mass as dry, it took fire and was dissipated in a large volume of brilliant yellow flame, without smoke or odor, and with so little noise as not to attract the attention of those in an adjoining room, although the doors were open. No nitrous acid fumes were observed as others have asserted, nor was the presence of this gas detected in the

It burns with a voluminous yellow flame, very brilliant and rapid, produces no smoke or odor, and leaves little or no residue. If well prepared, the products of its combustion are only gaseous. It burns so much more rapidly than gunpowder, that the latter is not inflamed by it; and not the least inconvenience is felt by burning a flock of it on the naked hand. It detonates with some difficulty when struck with the hammer on an anvil, and only in the part receiving the blow, the remainder being scattered about. Wetting does not injure it, if it is again carefully dried. Its projectile force is much greater than that of gunpowder, and has been variously stated by different experimenters as from four to eight times more powerful.

Dr. Otto states that a charge of  $1\frac{1}{2}$  to  $\frac{3}{4}$  grain, propelled a ball through an inch board of hard wood; and with a charge of from 4 to 8 grains, balls were projected from a gun with the best effect at 45 paces distance.\* Dr Samuel L. Dana, of Lowell, has made the most extensive experiments on the power of cotton-powder which to our knowledge have been made in this country.† His trials were made at the powder mills of Mr. O. M. Whipple, near Lowell, with an epruvette, or proof-mortar, carrying a 24 pound iron ball, at an elevation of  $45^\circ$ . The projectile force of the gun-cotton was greatest when it was loosely packed in the chamber of the epruvette, leaving the greater portion at the breech, on which the ball rested. "Two balls were used differing a little in their windage. Four qualities of gun-cotton were used; the first was immersed 25 minutes in the mixed nitric and sulphuric acids. No. 2, the same immersed, after drying, in fresh acids for 25 minutes more. No. 3, dipped 25 minutes, and then a new portion of fresh acids added, and the dip continued for the same time longer. No. 4, called 'blasting cotton,' dipped 35 minutes. Two discharges of Mr. Whipple's best rifle powder F F F F, were first made, each one ounce. No. 1 threw the ball 288 yards. No. 2 threw it 272 yards. Average  $281\frac{1}{2}$  yards. The chamber was then cleaned and charged with gun-cotton.

No. of discharges.	Quality of gun-cotton.	Quantity in ounces.	Yards projected.	REMARKS.
1	3	$\frac{3}{4}$	7	Charge loose in chamber, that not full, ball No. 2.
2	3	$\frac{3}{4}$	100	Chamber full, hard rammed, and small wad over cotton, ball No. 1.
3	3	$\frac{3}{4}$	175	Loose, and a little for a bed for the ball, ball No. 2.
4	2	$\frac{3}{4}$	272	As in 3d shot, but more bed, ball No. 1.
5	$\left\{ \begin{array}{l} \text{No. 2} \\ \text{No. 1} \end{array} \right\}$	$\frac{3}{4}$	453	$\left\{ \begin{array}{l} \text{Charge as in 4th, ball No. 1, buried} \\ \text{3 feet in the ground on falling.} \end{array} \right\}$
6	1	$\frac{3}{4}$	100	Charge as in 4th, ball No. 2.
7	4	1	567	Charge as in 4th, ball No. 1.
8	4	$\frac{3}{4}$	50	Charge rammed hard home, ball

No. 1. This charge was about one hour after the 7th, during which period it had been carried, wrapped tight in paper, in my hand, while searching for the ball of the 7th shot. It may have absorbed moisture.

It appears from the 4th, 5th, and 7th shots, that the distance projected increases faster than the quantity."

Dr. Dana also tried the gun-cotton in blasting rocks, in the line of a new canal now excavating in Lowell. The first trial was on a ledge of argillo-micaceous slate, very hard and tough. The portion selected was imperfectly stratified in an almost vertical direction, with a perpendicular face about 9 feet high. Two holes each  $1\frac{1}{2}$  inches diameter, were drilled into this rock  $5\frac{1}{2}$  and 6 feet from the face, 12 feet asunder, and about 9 feet deep. Gun-cotton (No. 4) was enclosed in cartridges of cotton cloth,  $1\frac{1}{2}$  inches diameter, and respectively 2 feet 10 inches, and 5 feet long, holding 9 and 11 ounces. The holes were filled with dry sand over the cartridges, (5 feet over one, and 6 over the other,) which were then fired by an attached fuse. The explosions occurred within a few seconds of each other, with a sharp but not loud report, and

small apartment. Later experiments have convinced us the cotton-powder is sometimes inflamed at a temperature even lower than  $212^\circ$ .

B. S., Jr.

\* *L'Institut*, No. 670, p. 366.

† Lowell Daily Courier, Dec. 8.

very little smoke. The result was highly satisfactory to the engineer and contractors under whose inspection the experiment was tried. The mass of rock was 25 by 5 by 9 feet = 1125 cubic feet, or about 90 tons weight, moved by 20 ounces of gun-cotton! The contractors declared that 10 or 12 pounds of ordinary powder would have been required to do the same work, or eight times as much as was used of gun-cotton. In the second experiment, 78 ounces 6 drachms of gun-cotton were fired in a hole 5 inches diameter and  $9\frac{3}{4}$  feet deep, and moved a mass of 45 by 10  $9\frac{3}{4}$  feet = about 350 tons. The gun-cotton used in these experiments was prepared by Dr. Dana after the method proposed, and successfully employed by Mr. A. A. Hayes, of Roxbury, which is substantially the same as that already described.

Some experiments on the cotton-powder in mining have been made in Cornwall by Prof. Schonbein and Mr. R. Taylor,\* and with the most satisfactory results. It was found practicable to enter immediately after explosion into a narrow adit 600 or 700 fathoms from day, where it would not have been possible to have entered under three quarters of an hour, if a like amount of common powder had been burnt there.

The action of nitric acid in producing a highly inflammable substance, is by no means confined to cotton. M. Pelouze, in 1838, observed that common unsized paper, after similar treatment in strong nitric acid, became remarkable tough, quite impervious to water, transparent, resembling vellum, and very inflammable. He has lately informed the Académie des Sciences at Paris, (Nov. 2d,) that he has prepared an explosive paper, one and half grains of which was as powerful in a pistol, as the common charge of best gunpowder. Flax and other fibres have been prepared in the same way.

The analysis of Xyloidine, by Pelouze, gives for its composition  $C_6 H_4 NO_9$ , or doubling the formula  $C_{12} H_8 N_2 O_{18}$ . Cellulose, starch, or clean cotton fibre, may be expressed by the formula  $C_{12} H_{10} O_{10}$ . Xyloidine may then be considered as cellulose, in which a part of the hydrogen is replaced by nitrous acid. Substitutions of this sort have been fully established by the late researches of Laurent, Hoffman and Muspratt, which have shown that the elements of nitrous acid may, like chlorine and bromine, replace the hydrogen in many organic compounds. In conformity to this view, the formula of Xyloidine will be  $C_{12} H_8 N_2 O_{18}$ , in which the elements of two equivalents of nitrous acid are substituted for two of hydrogen in cellulose.

The arrangement of its elements is such as to produce in its combustion an immense volume of permanent gases and elastic vapor, on whose instantaneous evolution the force of the gun-cotton depends. In the production of the gun-cotton by the process described, two equivalents of hydrogen from the vegetable fibre react with two of nitric acid to form two of water and two of nitrous acid; the latter enter into the constitution of gun-cotton, while the water formed remains in the acid mixture, and so far dilutes it as soon to render it unfit for use. Hence the necessity of changing the acid liquor. In dilute nitric acid the Xyloidine dissolves, forming oxalic acid. When, in its preparation, the gun-cotton is seen to become gelatinous and semitransparent, it is a sign that the acids are no longer of a sufficient strength to produce the explosive compound.

## MAGNESIA AS AN ANTIDOTE TO ARSENIC.

By Dr. CHRISTISON.

Dr. Christison's attention was lately turned to this subject by a case of poisoning, with arsenic, having come under his notice, in which magnesia seemed to prove very serviceable. Immediately afterwards, he observed it announced in a French scientific newspaper, '*L'Institut*,' May 20, that a paper had been read before the French Institute two days before, by M. Bussy, to prove "That magnesia, not strongly calcined, removes arsenic entirely from a state of solution in water; that this is effected still more completely by magnesia in the gelatinous state; and that animals which have taken arsenic are invariably saved if made to swallow magnesia." While waiting for the details of M. Bussy's inquiries, Dr. Christison made a few experiments to ascertain the amount of the action of magnesia; and he found that the dense magnesia of the shops exerts very little action in removing arsenic from solution in water; that a very light magnesia, now largely

\* *Chemical Gazette*, London, Nov. 1, 1846.

manufactured at Belfast, and quite free of carbonic acid, will remove about a twenty-fifth of its weight of arsenic from solution in water, when agitated with the solution for a few minutes; so that even ammoniacal nitrate of silver does not any longer indicate the presence of arsenic; that the same magnesia will remove about a twelfth of its weight of arsenic if agitated occasionally for a period of 8 or 12 hours; that this proportion is removed entirely in less than 3 minutes if the mixture of magnesia and water be previously near the temperature of  $212^{\circ}$ ; and that the same proportion is removed with as much speed at ordinary temperatures, if the magnesia be used in the form of gelatinous pulp, as thrown down in a cold solution of sulphate of magnesia by solution of caustic potash, and washed with cold water.

It is well known that magnesia was proposed many years ago by Mr. Hume of London as an antidote for arsenic, and that several cases have been published in which it appeared to have been of service; but that its general utility has been doubted or denied on account of the apparent want of chemical action between oxide of arsenic and magnesia. M. Bussy's inquiries will probably clear up these difficulties. Meanwhile it appears probable, from the experiments described above, that the general belief in the want of action between magnesia and oxide of arsenic has arisen from the circumstance that for a long time no other magnesia has been in current use in medical practice in Britain except the dense variety, which appears to exert very little action on arsenic in solution on account of its great density.

Dr. Christison promises more accurate experiments and a statement of the successful case hereafter. Meanwhile it appears advisable that, when magnesia is used as an antidote, and cannot be promptly obtained in the gelatinous state, the light calcined magnesia should alone be employed, and in the proportion of between 30 and 50 parts to 1 of arsenic.—*Chem. Gaz.* August 15th, 1846, p. 316.

#### AMMONIA AS A VESICANT.

(*Chemist*, Oct., 1846, p. 467.)—Formula of Pommade de Gondret:—In summer take lard, 6 drachms; oil of sweet almonds, 2 drachms; tallow, 4 drachms. Melt by a gentle heat, and pour into a wide mouthed phial with a glass stopper. Then add 12 drachms of liquid ammonia at  $27^{\circ}$  or  $28^{\circ}$ ; put in the stopper and shake it up. It should be kept in a cool place; but as the temperature gets lower, put two drachms less tallow, and 2 more of lard. This pommade produces vesication in three, four, or five minutes.

#### CITRATE OF IRON AND AMMONIA.

By M. BERAL. (*Jour de Chimie Medicale*, Aug., 1846, p. 498.)—The citrate of iron and ammonia, and its compounds are tonic; they are recommended to physicians for the treatment of all diseases which require the martial preparations. The following is the formula for preparing the citrate of iron and ammonia:

Distilled water, . . . . . 5 lbs.  
Crystal. citric acid, . . . . . 2 "  
Liquor ammoniac, . . . . . 1 "

Dissolve in a platina vessel and place the mixture on the fire; when boiling add by degrees fifteen lbs. of the moist hydrated peroxide of iron. When the oxide is dissolved, cool it for filtering; make it of the consistency of syrup; spread the product on plates of glass, and dry by the heat of a stove so as to obtain the citrate in transparent scales, of a fine garnet colour. The quantity of hydrated peroxide should be equal to  $1\frac{1}{2}$  lbs. of dry peroxide. Thus prepared, the citrate of iron is soluble, uninjured by air, always identical and free from the styptic taste common to other preparations of iron.

Formula for the Syrup of Citrate of Iron:

Simple syrup, . . . . . 7 drs.  
Citrate of iron and anhydrous ammonia,  
Sugar of cloves and vanilla, of each, . . . 15 grs.  
Mix and dissolve.

Formula for Pills of Citrate of Iron:

Sugar in powder, . . . . . 3 drs.  
Citrate of iron and anhydrous ammonia, . . 1 "  
Mucilage gum arabac, . . . . . a sufficient quantity.  
Divide into pills of 3 grs. each.

#### ON THE NOURISHING QUALITY OF DIFFERENT VEGETABLE SUBSTANCES.

Reckoned from the amount of Nitrogen contained in them.

By E. N. HORSFORD, of Albany, U. S.

(*Ann. der Chem. and Pharm.*, vol. lviii, p. 166.)—This is a very able research conducted in the laboratory of Prof. Liebig by the author, who appears to have devoted much time and care to the analysis. Besides simply estimating the amount of carbon, hydrogen, nitrogen, oxygen, sulphur, and ashes in the various vegetable substances that passed through his hands, the proportion of vegetable azotized substances contained in each one is also laid down; this is calculated from the amount of nitrogen and the known composition of these principles as made out by Mälder, Scheerer and others.

The following is the statement of the nutritive value of some of the substances alluded to in the extensive table accompanying the memoir. Wheat is taken as the standard, and the numbers in the table represent how many parts of the corresponding vegetable are equal to 100 of wheat.

	Theory.		Experiments on animals by Boissengault.
	Dried at $212^{\circ}$ F.	Fresh	Fresh.
Wheat . . . . .	100	100	94
Rye, . . . . .	98.8	97.6	97.6
Corn, . . . . .	115	113	106
Rice, . . . . .	220	225	
Buckwheat, . . .	170	166	122.7
Pease, . . . . .	57	60	90.7
Lentil, . . . . .	55	58	
Potato, . . . . .	220	596.3	429
Yellow Beet, . .	182.7	919.4	589.7

—*American Journal of Science and Arts.*

L. L. S.

#### THE British American Journal.

MONTREAL, FEBRUARY 1, 1847.

#### THE MONTREAL SCHOOL OF MEDICINE AND SURGERY AND ITS DIPLOMAS.

If there is one thing which more than another tends to render unpleasant the duties which devolve upon the editors of public journals, it is the animadversions which they are occasionally called upon to make on the public acts of public bodies. In the discharge of functions appertaining to such bodies, it is the mode which most usually furnishes the material for remark, for it seldom occurs that the powers with which they are invested are transcended, or that prerogatives are arrogated which are not actually possessed. It may, and does not unfrequently happen, that these powers are pushed to

their utmost, their extreme limit, but excesses beyond this point are generally as carefully avoided, as their occurrence would be certainly visited with severe reprehension. It has been our unpleasant duty, on more than one occasion since our editorial career began, to animadvert on the course of policy pursued by the members of the corporation constituting "the School of Medicine and Surgery of this city;" a course which had for its object the attainment of their own ambitious views, at the expense of the interests of the Profession at large, and which we flatter ourselves we were in some degree instrumental in frustrating; but it now devolves upon us to execute, what certainly is the most unpalatable task which has yet been assigned to us, the still more unpleasant duty of arraigning them before the Profession for having issued diplomas or certificates of qualification, without the slightest authority or warrant, thus transcending the power with which they were invested by their act of incorporation.

It will be fresh in the memory of most of our readers, that in the first session, of the second parliament, held in this city during the winter of 1844, '45, a petition was presented to the house by the lecturers of the School of Medicine and their students, praying for an act of incorporation for the said School, and among other matters stating "that with a view to place the said College of Medicine and Surgery upon a proper and respectable basis, your petitioners humbly pray that the act of incorporation now sought for, do provide *that the students who shall have passed their examination, after having conformed with the statutes of the said College, may be entitled to present the certificate of having been approved of after the said examination* to the proper authorities, so as to obtain the necessary license to practice, in such branches as the said certificate may set forth." The petition having been laid before the House, a bill based upon it was accordingly introduced by Mr. Scott, the hon. Member for the county of Two Mountains, which contained the following most significant clause:

IV. And be it enacted, That no Diploma, Certificate or Testimonial of ability shall be given by the said Corporation to any pupil, except after a public examination of such pupil, at some place in the City of Montreal, and between the fifteenth day of April and the fifteenth day of May, after public notice of the day, hour and place of examination, given in the manner to be prescribed by the By-Laws of the Corporation.

We have only on this point further to remark, that the Bill containing this clause was carried in the Legislative Assembly by a large majority, but was fortunately arrested by the Legislative Council, and returned by the latter to the former deliberative body, amended in such a manner as completely to deny to the corporation any such privilege as the one to which we have been alluding, by expunging from it all those clauses, and parts

of clauses, which conceded or admitted to them the power, as will be seen by a reference to the Act, as it afterwards passed the two Houses, and received vice-regal sanction, and which we have published on another page for the benefit of the Profession at large, that they may be cognizant of the actual extent of power with which that School has been endowed.

After the remarks which we have made, it will, we think, be conceded, that the members of the School of Medicine did not consider themselves authorized to grant Diplomas, without the special permission and sanction of the Legislature, and as their specific demand for this power was emphatically refused to them, their authority to do so now, apart from the legal or even ethical bearings of the question, is a point upon which we think there can not be two opinions.

But the power has been arrogated by the School of Medicine, and DIPLOMAS OR CERTIFICATES OF QUALIFICATION HAVE BEEN ISSUED. The only circumstance of which we have no evidence, and it is a matter of no importance as affecting our argument, or the position of the School, is the fee exacted for their parchments.

Little did we think that the four public examinations which were held at the rooms of the School of Medicine and Surgery, in the month of April last, and which called forth, and for ought we know justly, the encomiums of the city press generally on those who, it was said, so admirably acquitted themselves on the occasion,—little did we think that these public examinations, of themselves unwarranted, except so far as a voluntary submission to them may be supposed to operate, were but the prelude to an act, the exhibition of a Diploma, which, we have no hesitation in saying, is unparalleled in medical history, unless an analogy may, perchance, be found in the acts of the representatives of a certain American self-styled University, which existed but on paper, and whose Diplomas became an object of peddling traffic. We beg to assure the members of the School of Medicine, that we are not willingly finding fault; but when we discover that in their circular for '45, '46, which has only recently fallen into our hands; (a place which it was doubtless intended it should never have reached, from the fact that we have not been directly honoured with one, though they have been generally distributed over the Province,) the lecturers, after "*the natural expression of a pardonable vanity*" on account of the success of their school, go on to state, "that of this number four underwent successful and highly meritorious public examinations, and received the *certificates of qualification of the corporation*;" and further, that "Brock Carter, Ammi P. Barber, Charles Brown, and Wm. H. Ellsworth, are the gentlemen who received the *Diploma*



of the School," we naturally looked into their authority for such a procedure; and in thus noticing the matter, we consider ourselves but discharging a simple act of duty to the School of Medicine itself, the students who may be in attendance on their lectures, to the Profession of the Province, and the no less interested public in general. To the two first, that they may the better understand their relative positions and the full extent of power possessed by the school; and to the latter that their interests may not suffer at the hands of parties whose zeal, prompted by ambitious views, far outstrips their discretion or their judgment, in foisting upon it documents pretending to every mark of genuineness, but which are in reality not worth in value the parchment upon which the manuscript is written.

We do not anticipate that our present observations on the School of Medicine will pass unnoticed by that body. We hope they will not, and we will with pleasure open our columns to any reply they may see fit to make. Our duty to the Profession and the public at large is in the mean while discharged, by noticing the offence committed against their interests. We forbear, for the present, any further remarks, concluding by laying before our readers the following copy of the Diploma, which is written on parchment, the seal of the corporation, inclosed in a tin box, being appended to it by a blue ribbon. It will be found to be, in reality, a Certificate of qualification or a Diploma; a document which the "School" possesses not the shadow of the shade of an authority for granting to persons, either qualified or unqualified, or with or without the formality of a public or even private examination.

## SCHOLÆ MEDICINÆ ET CHIRURGIAE

### MARIANOPOLI

A.D. 1843 Institutæ, Senatu Canadensi Confirmatæ A.D. 1845

### (L.S.) TESTIMONIUM.

Nos Praeses et Praelectores, Scholæ Medicinæ et Chirurgiæ, dilecto nobis in Christo, A. B. intra Scholam prædictam studio, salutem, in Domino Perpetuam.

Cum omnia nostra studia, consilia, et actiones ad Dei gloriam et fratrum salutem referri debeant; Cumque Medicina ad hæc, inter reliquas Facultates, plurimum conferat, hinc est quod Nos Praeses et Praelectores auctores\* te, praestitis prius omnibus exercitiis, publicæ ex-

aminationi, in Medicina et Chirurgia subisse, et nobis satisfecisse, te in omnibus rebus, quæ ad Medicinam et Chirurgiam necnon partem Obstetricam exercendam pertinent, parum esse visum. In cuius rei fidem his literis communi Scholæ auctori sigillo munitis, nos Chyrogapha nostra apposuvimus.

Marianopoli,  
Aprilis 18mo, 1846.

(Signed)

FRANCISCUS C. T. ARNOLDI, M. D., Praeses }  
Praelect. Arte Obstet. }

GULIELMUS SUTHERLAND, M. D. }  
Chimie et Pharmacia Praelector. }

J. G. BIBAUD, M. D. }  
Materia Medica Praelector. }

FRANCISCUS BADGLEY, M. D. }  
Medicina Theoret. et Practic. Praelector. }

P. A. C. MUNRO, Chirurgia Practicaque. }  
Praelector. }

HORACE NELSON, M. D. }  
Anatomia Physiologie Praelector. }

### AN ACT TO INCORPORATE THE MONTREAL SCHOOL OF MEDICINE AND SURGERY.

Whereas Francis C. T. Arnoldi, Francis Badgley, Pierre Munro, William Sutherland, and Horace Nelson, all of the City of Montreal, Licensed Practitioners of Medicine and Surgery, and divers others, under their tuition, have, by their Petition to the Legislature, represented, that the persons above named have, for the last two years, been engaged in giving Public Lectures and instructions in the various branches of science connected with the exercise of their profession, and have for that purpose established a Public Medical School, with suitable apparatus and conveniences, and have commenced the formation of a Library and Anatomical Museum, which they are willing to appropriate for the purposes hereinafter mentioned; and that the said Petitioners believe that if the said persons, and their successors, were incorporated and invested with the powers hereinafter mentioned, they would be able still further to increase their means of affording adequate instruction to their pupils, and would be enabled to place within their reach such means of acquiring medical knowledge as would render it unnecessary for them to spend any portion of their period of study out of this Province, and frequently out of Her Majesty's Dominions, as many are under the necessity of doing at an expense which they can ill afford, and to their disadvantage in other respects; and whereas it is expedient to grant the prayer of the said Petition: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and of the Legislative Assembly of the Province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, and intitled, *An Act to Re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada*, and it is hereby enacted by the authority of the same, That the said Francis C. T. Arnoldi, Francis Badgley, Pierre Munro, William Sutherland, and Horace Nelson, and their successors, and those who may be associated with them or their successors in the manner hereinafter mentioned, shall be and are hereby constituted a body politic and corporate by the name of "The Montreal School

\* There is a verb wanting in this sentence, which we supply by the word "declaramus." It is copied, however, verbatim.



of Medicine and Surgery," and by that name shall have perpetual succession and a Common Seal, with power to break, alter, or make anew the same, and may by that name sue and be sued, plead and be impleaded in all Courts of Law or Equity in this Province, and may purchase, take, and hold real and personal property, provided the real property so held by the said Corporation do not at any time exceed the value of five thousand pounds, currency, and may alienate the same and acquire other property instead thereof.

II. And be it enacted, That whenever any of the members of the said Corporation shall die, or shall become permanently resident out of the City of Montreal, or shall resign, (and any members shall be at liberty so to resign,) or it shall be deemed advisable by the Corporation to increase the number of members thereof, (which the said Corporation may always do, provided the number of the members shall never at any time exceed ten,) then the said Corporation shall give public notice of such vacancy in the manner to be provided by the By-Laws of the Corporation, and that, on a day to be appointed in such notice, a member (or members as the case may be) will be chosen by public competition; and on the day so appointed the candidates shall attend at the place where the meetings of the Corporation shall be held, and shall then and there be examined as to their qualifications as public teachers of the sciences they will be required to teach, in such manner as shall be appointed by the By-Laws of the Corporation then in force; and the name of the candidate whom the Corporation shall deem in all respects best qualified to fill the vacancy shall be submitted to the Governor of this Province for his approval, or if the Corporation shall be of opinion that none of the candidates are qualified to fill such vacancy, and the vacancy cannot be filled, then a new competition shall be had as aforesaid.

III. And be it enacted, That the said Corporation shall yearly and every year cause to be delivered at least one hundred and twenty lectures, of at least one hour each, in the English language, and the like number of the same duration in the French language, on the following branches of Medical Science, to wit: Anatomy and Physiology, Chemistry and Pharmacy, *Materia Medica*, Theory and Practice of Physic, Principles and Practice of Surgery and Midwifery, and Diseases of Women and Children, to be given by competent Lecturers at some place in the City of Montreal, between the first day of October and the last day of April.

IV. And be it enacted, That the fee to be demanded of any Pupil on his entry or matriculation in the said School shall not exceed ten shillings, currency, to be applied by the Corporation to the purchase of books, specimens, and the improvement in other ways of their Library and Museum, which shall be open for the use of their Pupils on all days except Sundays and Holidays, and an account of the sums received for such fees, and of the expenditure thereof, shall be rendered yearly to the Governor of this Province.

V. And be it enacted, That the said Corporation shall have power to make such By-Laws as may be necessary for the conduct of its affairs and business, the government of its Pupils, and for carrying into effect the provisions of this Act, as to the members thereof shall from time to time appear expedient, and as shall not be in any wise repugnant to or inconsistent with this Act or to Law; and such By-Laws, being first approved by the Governor of this Province, shall have force and effect, and shall bind the Members and Pupils of the Corporation, and all others whom they may concern; and may in like manner be altered, amended or repealed, and others made in their stead as need shall be: Provided always, that no such By-Law shall impose any fine or penalty exceeding twenty-five shillings for any one offence: And provided also, that a fair copy in both languages of the By-Laws then in force shall be at all times publicly posted in some conspicuous place in the Lecture Room; and any copy of such By-Laws under the Seal of the Corporation and certified by the Provincial Secretary, shall be deemed authentic, and shall be received in evidence as the By-Laws in force at the date of such certificate.

VI. And be it enacted, That on the presentation by any pupil of the said Medical School of his certificate of attendance from the said Corporation, to the body or persons appointed to examine Applicants for Licences to practice physic, Surgery, Midwifery or Pharmacy, they shall examine the said certificate, and having done so, and having ascertained in what capacity or department the Applicant is therein certified as having attended such lectures,

and having duly examined him, shall themselves certify accordingly to the Governor of this Province, a License to practice may accordingly be issued to such Applicant in the usual manner and on payment of the usual fees.

VII. And be it enacted, That all the property real or personal immediately before the passing of this Act held by the persons herein first above named and incorporated, as appertaining to and being for the use of the said Medical School, and more especially the Library and Museum aforesaid, shall be vested in and held by the Corporation hereby created for the purposes aforesaid: Provided always, That if, by reason of any failure to comply with the provisions of this Act, the privileges hereby granted shall be declared forfeited by any competent tribunal, then the property of the said Corporation shall be forfeited to Her Majesty, and (the debts of the Corporation being first paid out of the same) may be assigned by the Governor in Council to such Public Institution in this Province as he shall nominate for that purpose.

VIII. And be it enacted, That each and every Member of the said Corporation shall, in his private capacity, be liable for any debts or obligations of the Corporation.

IX. And be it enacted, That all the power of the said Corporation may be validly exercised by any majority of the Members thereof for the time then being; and that any deed or instrument under the Seal of the Corporation, and signed by any such majority of the Members for the time being, or by such person as shall be appointed by such majority as their Attorney for that purpose, shall be held to be the deed of the Corporation, and any service of process or otherwise, made at the place at which the said Medical School shall be kept, and (if in such case personal service be required but not otherwise) on one of the Members of the Corporation, shall be deemed a valid service upon the said Corporation.

X. And be it enacted, That the said Corporation shall lay before the Governor of this Province, at such times and in such manner and form as he shall direct, any statement by him required as to the affairs of the Corporation or their doings under the authority of this Act, and shall submit to such inquiry into and concerning the same as he shall direct to be made by any person or officer he may nominate for that purpose.

XI. And be it enacted, That this Act shall be a public Act, and shall be judicially noticed as such by all Judges and Justices of the Peace and others whom it may concern without being specially pleaded.

**LA LANCETTE CANADIENNE, JOURNAL MEDICO-CHIRURGICAL.**—This is a new semi-monthly Medical periodical, issued, in this city, from the press of Messrs. Lovel and Gibson, and edited by J. E. Leprohon, M. D. It is published in the French language, and consequently addresses itself more especially to the practitioners of French origin of the Province, who, if disposed, have now an opportunity of familiarizing themselves with the progress of the Medical Sciences in their own language. This journal is printed on a half sheet of double crown paper, and is furnished to subscribers at the price of \$4 per annum. We hail with pleasure the advent of our contemporary, and will be most happy to exchange with him, in accordance with his request. Our own Journal possesses but a very limited circulation among the practitioners of French Canadian origin practising in this Province. A field worthy of culture is undoubtedly open to our contemporary, and equal in extent with it is the responsibility which now attaches to the attempt. From long personal acquaintance with the Editor, we think the management of the journal is in excellent hands.

**The University of Edinburgh and the Extra-Mural Lecturers.**—At a recent meeting of the town council of the city of Edinburgh, a report from the college committee was unanimously agreed to, by which a considerable change has been effected in the rules guiding the senatus of the university in the reception of tickets qualifying for graduation in medicine. Students are now permitted to take one-third of the required classes out of the university, from extra-mural lecturers, but no such lecturers are recognised whose fees for their classes are below the university standard. The principle which has guided this act is perfectly equitable; and a number of the most eminent of the extra-mural lecturers have acceded to it, among whose names we find the following: Drs. Douglas MacLagan, Skae, Wilson, Bennet, and Campbell. In thus extending to the extra-mural lecturers university privileges, the town council have exhibited a praiseworthy care of the interests of their own professors.

**Convocation at McGill College.**—At a Convocation held at the University Hall, on the 29th instant, Mr. George Augustus Fenwick, was admitted to the degree of M. D.

#### BOOKS, &c., RECEIVED DURING THE MONTH.

Dublin Quarterly Journal, November, 1846.  
 Boston Medical and Surgical Journal, December 30, January 6, 13, 20, 27.  
 New York Medical and Surgical Reporter, January 2, 9, 16.  
 Medical Examiner, January, 1847.  
 Missouri Medical and Surgical Journal, December, 1846.  
 Wiley and Putnam's News Letter, January.  
 Southern Medical and Surgical Journal, January.  
 Buffalo Medical Journal, January.  
 New York Journal of Medicine and Collateral Sciences, Jan.  
 American Quarterly Journal of the Medical Sciences, Philadelphia, January 7.  
 Southern Journal of Medicine and Pharmacy, January.  
 American Journal of Science and Arts, January.  
 Lecture Introductory to the Course in the Theory and Practice of Medicine in the Medical Department of Pennsylvania College, by W. Darrach, M. D. Philadelphia. Session, 1846, '47.  
 Barker's Canadian Magazine, January.  
 American Journal of Insanity, January.  
 Dublin Medical Press, December 9, 16, 23, 30.  
 New Orleans Medical and Surgical Journal, January.  
 The Medical News and Library, January.  
 An Introductory Lecture, delivered before the Class of the Baltimore College of Dental Surgery, Session 1846, '47, by A. Westcott, M. D., Baltimore.  
 Provincial Medical and Surgical Journal, December 23.  
 Manuel de la Société du Tempérance, dédié à la Jeunesse Canadienne, par le Rev. Pere C. Chiniquy, Prêtre. 2d Edition. Montreal, Lovell and Gibson. 1847.  
 La Lancette Canadienne, January 4, 15. Montreal.  
 The Annalist, a record of Practical Medicine in the city of New York, January 15. No. 8. We would be thankful for the back numbers.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR NOVEMBER AND DECEMBER, 1846.

Dr. CAMPBELL AND Dr. CRAWFORD, Attending Physicians.

Remained, . . . . .	106	Discharged cured, . . . . .	197
Admitted, . . . . .	192	Irregular, . . . . .	1
		Died, . . . . .	8
Total treated, . . . . .	298	Remaining, . . . . .	92
		Total, . . . . .	298
IN-DOOR PATIENTS.		OUT-DOOR PATIENTS.	
Belonging to Montreal, . . . . .	133	Belonging to Montreal, . . . . .	315
Immigrants, . . . . .	50	Immigrants, . . . . .	72
Seamen, . . . . .	9	Seamen, . . . . .	2
Total, . . . . .	192	Total, . . . . .	389
Males, . . . . .	100	Males, . . . . .	228
Females, . . . . .	92	Females, . . . . .	161
Total, . . . . .	192	Total, . . . . .	389

#### DISEASES AND ACCIDENTS.

Abcessus, . . . . .	1	Lepra Vulgaris, . . . . .	1
Amaurosis, . . . . .	1	Melancholia, . . . . .	1
Ambustio, . . . . .	2	Morbus Cordis, . . . . .	1
Amenorrhœa, . . . . .	4	Ophthalmia, . . . . .	2
Ascites, . . . . .	3	Paralysis, . . . . .	3
Bronchitis, . . . . .	13	Paronychia, . . . . .	1
Bubo, . . . . .	1	Pentontitis, . . . . .	1
Cataract, . . . . .	1	Pleuritis, . . . . .	2
Catarrhus, . . . . .	3	Pleurodynia, . . . . .	2
Cephalalgia, . . . . .	1	Phthisis, . . . . .	6
Conjunctivitis, . . . . .	1	Porrigio, . . . . .	1
Contusio, . . . . .	7	Pneumonia, . . . . .	3
Cynanch Tonsillar, . . . . .	1	Rheumatism, . . . . .	9
Corneitis, . . . . .	1	Scirrhus, . . . . .	2
Chlorosis, . . . . .	2	Sciatica, . . . . .	1
Diarrhœa, . . . . .	10	Scrofula, . . . . .	1
Delirium Tremens, . . . . .	3	Strangury, . . . . .	1
Dyspepsia, . . . . .	2	Stricture Esophagi, . . . . .	4
Eczema, . . . . .	1	Subluxatio, . . . . .	4
Erysipelas, . . . . .	2	Synovitis, . . . . .	2
Febris Com. Cont., . . . . .	41	Syphilis, . . . . .	9
" Intermitt., . . . . .	4	Tumor, . . . . .	1
" Typhus, . . . . .	4	Ulcus, . . . . .	13
Fractura, . . . . .	3	Varicella, . . . . .	1
Gestatio Uterina, . . . . .	1	Vertigo, . . . . .	1
Gonorrhœa, . . . . .	3	Vulnus, . . . . .	1
Hemiplegia, . . . . .	1		
Hepatitis, . . . . .	1		
Hysteria, . . . . .	2		
		Total, . . . . .	192

#### TO CORRESPONDENTS.

Letters have been received during the month from Dr. Johnstone, Sherbrooke: Capt. Lefroy, of H. M. Observatory, Toronto. The remarks of the latter gentleman have received attention; but he will receive a letter from us in the course of a few days, along with copies of the report. We cannot say more at present. A letter has also been received from Dr. Holden, Belleville. The communication of Dr. McDiarmid, Prescott, has been received. As also that of Prof. Croft, which has arrived as the Journal is going to press.

#### TO SUBSCRIBERS.

Mr. Wood, who is about to start on a collecting tour for the Herald, Gazette, and other Journals, will carry with him, also, receipts from this office for the subscriptions due to this Journal by subscribers. Our subscribers will oblige us by meeting the call which will thus shortly be made on them. In our last number we observed that this service would be performed by Mr. Gemmill. The arrangements with the latter could not be perfected at the time he left this city, which will account to our friends for the change, of which we think it proper thus to advise them.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending DECEMBER 31, 1846.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Measles,.....	2	1	3	.	1	1	.	.	.	1	.	.	.	.
	Scarlatina,.....	.	1	1	.	.	.	1	.	.	.	.	.	.	.
	Small Pox,.....	.	3	3	.	3	.	.	.	.	.	.	.	.	.
	Fever,.....	10	11	21	2	3	4	1	1	3	2	1	3	.	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Convulsions,.....	1	1	2	2	.	.	.	.	.	.	.	.	.	.
	Dentition,.....	2	2	4	1	3	.	.	.	.	.	.	.	.	.
DISEASES OF RESPIRATORY ORGANS,...	Consumption,.....	18	15	33	6	3	1	1	1	2	2	7	4	3	3
	Croup,.....	5	.	5	3	1	1	.	.	.	.	.	.	.	.
DISEASES OF ABDOMINAL VISCERA,.....	Dropsy,.....	2	3	5	.	.	1	.	.	.	.	1	2	1	.
	Inflammation,.....	10	8	18	6	2	3	.	.	1	2	2	.	2	.
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Still-born,.....	8	.	8	.	.	.	.	.	.	.	.	.	.	.
	Debility,.....	4	5	9	.	.	.	.	1	.	1	.	.	4	5
	Intemperance,.....	.	2	2	.	.	.	.	.	1	.	1	.	.	.
	Unknown,.....	3	3	6	1	2	.	1	.	.	1	1	.	.	.
	Accident. Poison,.....	1	.	1	.	.	.	.	.	.	1	.	.	.	.
	Scrofula,.....	1	1	2	.	.	.	.	.	1	1	.	.	.	.
	Scalded,.....	1	.	1	.	.	.	.	.	.	.	.	1	.	.
	Frozen,.....	1	.	1	.	.	.	.	1	.	.	.	.	.	.
	Total,.....	69	56	125	29	18	11	4	4	8	11	13	10	10	9

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR NOVEMBER 1846.**

Date.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+19	+27	+17	+23.-	30.33	30.36	30.40	30.36	W.	W.	W.	Fair	Fair	Fair
2,	" 16	" 26	" 32	" 21.-	30.34	30.11	29.86	30.10	N E by N.	N E by N.	N E by N.	Fair	Snow	Sleet
3,	" 36	" 38	" 30	" 37.-	29.56	29.57	29.66	29.60	S.	W.	W.	Foggy	Rain	Snow
4,	" 29	" 32	" 23	" 34.5	29.80	29.93	30.19	29.97	W.	W.	N. W.	Cloudy	Fair	Fair
5,	" 15	" 22	" 13	" 18.5	30.42	30.43	30.48	30.44	N W by W.	W. N. W.	W. N. W.	Fair	Fair	Fair
6,	" 5	" 19	" 11	" 12.-	30.57	30.56	30.55	30.56	N W by W.	N W by W.	N W by W.	Fair	Fair	Fair
7,	" 7	" 21	" 30	" 14.-	30.40	30.16	29.86	30.14	W.	W.	W. by S.	Fair	Fair	Fair
8,	" 36	" 36	" 30	" 36.-	29.62	29.67	29.75	29.68	S.	S.	S. by W.	Rain	Cloudy	Fair
9,	" 28	" 33	" 27	" 30.5	29.93	30.02	30.15	30.03	W.	W.	W.	Fair	Fair	Fair
10,	" 24	" 21	" 18	" 22.5	30.14	29.99	29.74	29.96	N. E.	N. E.	N E by N.	Cloudy	Fair	Snow
11,	" 18	" 22	" 16	" 40.-	29.75	29.82	29.94	29.84	N E by N.	N E by N.	N E by N.	Snow	Snow	Snow
12,	" 16	" 20	" 16	" 18.-	29.97	29.93	29.94	29.95	N W by W.	W. N. W.	W. N. W.	Fair	Fair	Fair
13,	" 11	" 15	" 15	" 13.-	29.92	29.88	29.97	29.93	W.	W.	W.	Fair	Snow	Fair
14,	" 12	" 17	" 10	" 14.5	30.00	29.96	29.96	29.97	N W by W.	N W by W.	N W by W.	Fair	Fair	Fair
15,	" 8	" 16	" 12	" 12.-	29.96	30.00	30.07	30.01	N. W.	N. W.	N. W.	Fair	Fair	Fair
16,	" 10	" 14	" 8	" 12.-	30.12	30.13	30.12	30.12	N. W.	N. W.	N. W.	Snow	Fair	Fair
17,	" 6	" 15	" 12	" 10.5	30.14	30.04	29.92	30.03	N. W.	N. E.	N. E.	Fair	Fair	Snow
18,	" 19	" 24	" 24	" 21.5	29.66	29.51	29.40	29.52	N. E.	N. E.	N. E.	Snow	Snow	Snow
19,	" 22	" 26	" 22	" 24.-	29.33	29.38	29.32	29.34	N. E.	N E by E.	N. W.	Snow	Snow	Snow
20,	" 21	" 24	" 17	" 22.5	29.54	29.60	29.74	29.63	W.	W.	W.	Fair	Fair	Fair
21,	" 10	" 18	" 13	" 14.-	29.84	29.88	30.24	29.99	W.	W.	W.	Fair	Fair	Fair
22,	" 11	" 17	" 14	" 14.-	30.29	30.39	30.30	30.33	W.	W.	W.	Fair	Fair	Fair
23,	" 10	" 16	" 11	" 13.-	30.44	30.45	30.49	30.46	W.	W.	S. W.	Snow	Fair	Fair
24,	" 7	" 18	" 15	" 12.5	30.38	30.12	29.86	30.12	W. by S.	S. by W.	S. by W.	Fair	Fair	Fair
25,	" 25	" 30	" 20	" 27.5	29.68	29.56	29.83	29.69	S. S. E.	S. S. E.	S. E.	Fair	Snow	Fair
26,	" 5	" 14	" 16	" 9.5	30.18	30.11	29.80	30.03	W.	W.	W.	Fair	Fair	Snow
27,	" 24	" 24	" 34	" 24.-	29.48	29.35	29.22	29.38	S W by W.	S.	N. W.	Fair	Rain	Fair
28,	" 30	" 25	" 12	" 27.5	29.50	29.52	29.87	29.63	N. W.	N. W.	W.	Fair	Fair	Fair
29,	- 3	" 5	" 2	" 1.-	30.33	30.43	30.29	30.35	N W by W.	W. by N.	W.	Fair	Fair	Fair
30,	+ 2	" 14	" 17	" 8.-	29.90	29.83	29.93	29.89	N. W.	N. W.	N. W.	Cloudy	Snow	Fair
31,	" 19	" 25	" 21	" 22.-	30.04	29.98	29.88	29.97	W. by S.	W.	W.	Fair	Snow	Fair

**THERM.** { Max. Temp., +38° on the 3d.  
 { Min. " - 2° " 29th.  
 Mean of the Month, +18°. 9.

**BAROMETER,** { Maximum, 30.57 Inches on the 6th.  
 { Minimum, 29.22 " " 27th.  
 Mean of Month, 29.967 Inches.

**MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—DECEMBER, 1845.**  
*Latitude 43° 39' 4. N. Longitude 79° 21' 5. W. Elevation above Lake Ontario, 108 Feet.*

Day.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Rain inch on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1.	30.111	29.955	29.802	29.992	13.4°	27.3°	31.6°	27.05	.078	.132	.145	.130	.91	.87	.81	.85	Calm.	E.N.E.	E by N 3.5	—	0.440	Clear to 6 am. Overcast with haze fr 7 am
2.	29.558	29.347	29.215	29.334	34.6	42.3	43.4	40.91	.189	.247	.253	.229	.95	.93	.91	.89	ENE 2.0 lb	E. N. E.	Calm.	—	0.440	Densely c'd. Ring fr 2h 30m till 11 am
3.	29.312	29.401	29.401	29.401	33.6	42.0	32.0	30.00	.139	.198	.127	.127	.72	.70	.80	.76	WSW 2.5	W. N. E.	W. 2.0.	—	0.050	Densely c'd. Particles of snow pm
4.	29.700	29.853	29.992	29.906	25.8	34.1	32.0	31.56	.124	.155	.162	.147	.87	.79	.90	.83	WSW 2.5	W. by S.	W. S. W.	—	—	Generally clouded. Clear intervals.
5.	30.125	30.092	30.110	30.043	29.4	33.9	30.1	31.83	.141	.156	.136	.149	.89	.79	.81	.83	Calm.	Calm.	N. N. E.	—	—	Densely clouded. Dark and dull.
6.	30.201	30.129	—	—	23.9	38.2	—	—	.110	.138	—	—	.83	.89	—	—	N. N. E.	E. by N.	—	—	—	Lightly clouded all day
7.	29.721	29.434	29.217	29.388	34.4	38.6	39.1	38.09	.151	.197	.225	.202	.75	.85	.96	.88	E. by S.	E.	—	—	—	Halo fr 4 am Den. c'd. Ring fr 6 pm
8.	29.312	29.381	29.398	29.404	37.6	37.0	32.8	34.50	.192	.165	.153	.161	.86	.75	.82	.80	Calm.	N. N. W.	Calm.	—	0.435	Ceased ring 1 am. Dens. overcast all day
9.	29.603	29.746	29.744	29.704	32.0	32.4	30.5	31.09	.144	.144	.139	.144	.80	.78	.81	.82	N.	Calm.	N. E.	—	—	Densely clouded all day
10.	29.554	29.305	29.353	29.389	32.0	32.0	26.8	29.38	.158	.175	.137	.150	.88	.97	.93	.92	WSW 3.0	Calm.	N. N. W.	—	—	Densely c'd. Sfr snow 9 am to 7 pm
11.	29.584	29.696	29.778	29.720	24.0	29.0	29.0	25.75	.110	.133	.131	.120	.83	.82	.81	.85	N. N. W.	NW by W	N. W.	—	—	Gen. clouded. Clear int. 8 am to 2 pm
12.	29.889	29.871	29.851	29.894	17.6	20.4	17.4	18.14	.094	.092	.088	.090	.93	.81	.88	.87	Calm.	N. N. W.	N.	—	—	Densely clouded. Sfr snow 7 to 10 am
13.	29.892	29.885	—	—	18.8	20.2	—	—	.090	.087	—	—	.85	.77	—	—	N. N. W.	N. W.	—	—	—	Clouded all day.
14.	29.931	29.926	29.931	29.933	16.6	21.8	13.4	16.35	.089	.099	.078	.082	.92	.81	.91	.86	N. N. W.	N. W.	Calm.	—	—	Clear & unclouded. Very fine.
15.	29.900	29.686	29.853	29.853	7.2	27.0	11.8	15.64	.066	.084	.077	.079	1.00	.56	.98	.85	Calm.	NW by N	N. E.	—	—	Light passing clouds generally.
16.	29.789	29.509	29.572	29.657	13.4	26.8	23.8	22.77	.067	.115	.119	.107	.79	.78	.92	.84	Calm.	E. by N.	N. E.	—	—	Part. c'd am. Clear from 6 pm
17.	29.538	29.509	29.463	29.486	22.4	27.6	19.6	21.19	.113	.130	.101	.103	.89	.85	.92	.85	N.E. by N.	N. E.	N. N. E.	—	—	Clear to 7 am. Mostly clouded rem.
18.	29.382	29.158	29.048	29.157	12.8	29.6	29.1	25.74	.068	.127	.119	.110	.80	.77	.73	.76	Calm.	W. by N.	N. W.	—	—	Overcast all day. Slight snow 8 & 9 am
19.	29.039	29.144	29.274	29.213	29.4	29.4	29.4	25.70	.134	.149	.128	.127	.81	.80	.78	.79	N. N. W.	N. W. 2.5	N. W.	—	—	Clear am. Clouded pm.
20.	29.491	29.463	—	—	24.8	29.8	—	—	.133	.152	—	—	.98	.92	—	—	N. N. W.	W.	—	—	—	Slight snow on to 3 am. Unc'd from 11 am to midnight.
21.	29.613	29.835	29.890	29.802	21.0	27.4	17.4	21.60	.092	.088	.088	.092	.80	.58	.88	.77	N. N. W.	N. W.	Calm.	—	—	Part. c'd. Snow 4 to 8 am & 9 to 10 pm
22.	29.802	29.964	30.069	29.993	4.4	25.8	22.9	20.29	.104	.108	.118	.095	.91	.75	.92	.83	N. E.	Calm.	Calm.	—	—	Unc'd till noon. Rem part clouded
23.	30.180	30.186	30.097	30.136	2.4	23.8	16.4	16.10	.058	.096	.085	.086	1.00	.72	.88	.89	Calm.	Calm.	S. W.	—	—	Densely clouded all day.
24.	29.841	29.584	29.496	29.693	27.9	34.1	35.2	29.85	.141	.158	.169	.142	.91	.79	.83	.84	S. S. E.	S. W. by W	S. W.	—	—	Rain am: snow pm; very high wind pm
25.	29.312	29.400	—	—	36.2	35.2	—	—	.193	.202	—	—	.92	.99	—	—	Calm.	N. W. 3.0	S. S. W.	—	—	Generally overcast.
26.	29.903	29.639	29.345	29.539	16.8	32.4	34.9	30.87	.090	.141	.146	.148	.92	.77	.72	.83	Calm.	S. S. W.	S. S. W.	—	—	Very mild day
27.	29.040	28.920	—	—	41.8	49.3	—	—	.252	.296	—	—	.97	.85	—	—	N. S. W.	S. S. W.	N. W.	—	—	Densely clouded. Clear spaces 9 am
28.	29.177	29.339	29.679	29.459	34.6	30.8	25.6	28.88	.143	.127	.100	.123	.70	.74	.71	.76	N. N. W.	N. N. W.	NW by W	—	—	Mostly c'd. Raining slightly 10h 30m pm
29.	29.802	29.804	29.500	29.662	19.2	28.4	31.9	28.71	.092	.124	.142	.135	.85	.78	.79	.83	Calm.	E.	E. 2.5	—	—	Raining slightly 1 to 6 am. Dark & dull
30.	29.254	29.453	29.610	29.477	36.8	28.3	34.2	36.25	.210	.193	.186	.199	.97	.84	.95	.93	E. by S.	S. W.	Calm.	—	—	Densely clouded; dull; ring from 4 pm
31.	29.587	29.440	29.399	29.453	33.9	40.1	36.8	37.32	.186	.207	.207	.205	.96	.84	.95	.93	Calm.	N E by N.	Calm.	—	—	—
Mean	29.657	29.6381	29.6257	29.6424	24.98	30.97	27.77	27.64	.122	.141	.137	.134	.87	.79	.86	.84					1.215	Toronto Bay frozen over on the night of the 14th and morning of the 15th.

\* Snow, not appreciable on 1st, 4th, 19th, and 24th. —† Snow, on 10th, 0.1; 11th, 3.0; 12th, 0.1; 22d, 2.5; 23d, 0.3; total, 6.0.

Highest Barometer, 30.235 at 10 a.m. on 23d. } Range 1.318  
 Lowest do, 28.920 at 3 p.m. on 27th. }  
 Highest Temperature, 49° 4. on 2d, 11 p.m. }  
 Lowest do, 3° 9. on 23d, 7 p.m. } Range 46.5  
 Mean Daily Range, .. 10° 42 }  
 Extreme Daily Range, 21° 9. from 23d, pm, to 23d, am.

Under the head of "Tension of Vapour," is given the elastic force of the aqueous vapour in the atmosphere at each observation, in decimals of an inch of Mercury, or the proportion of the barometrical pressure due to its presence.

The quantity of Rain received for the last 24 hours, is noted at 9 a.m.

The Observations entered at 7 a.m., on Sundays, are actually taken at 9 a.m. The two Observations taken on Sundays are not included in any of the means.

Year. Temperature for December.  
 Mean. Max. Min. Range. No. Days. Inches. No. Winds. Calms. Mean force.

1840	24.50	42.10	8.60	60.70	7	6.600	233	79	1.34
1841	29.9	46.1	3.1	43.0	3	0.890	473	170	1.74
1842	25.8	40.5	4.1	36.4	3	1.040	372	228	.52
1843	28.83	48.5	3.1	45.4	6	imperf	339	261	.40
1844	28.93	45.5	1.6	46.9	2	imperf	441	183	.70
1845	27.64	49.4	3.9	42.1	5	1.215	423	201	.97



Fig. 1.



Fig. 2.

*The appendix vermiformis in a gangrenous state.  
Fig. 1. slit open. Fig. 2. laid in situ after being opened.*

SWEETLAND



THE  
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Vol. II.]

MONTREAL, MARCH, 1847.

[No. 11

**ON OBSTRUCTION OF THE APPENDIX VERMIFORMIS, AND ON "POST MORTEM" APPEARANCES IN PERITONITIS.**

By A. F. HOLMES, M.D., Prof. of Medicine, McGill College.

The interesting case of inflammation of the appendix vermiformis, reported by Dr. Nelson in the last number of this Journal, has engaged my attention, for different reasons, one of which is that a case of an analogous nature occurred to myself some years ago, and another, that it serves to establish the appearances which are to be looked for in peritonitis, and thereby to guide our decision in questions of legal medicine. As the subjects alluded to have no particular connexion, they need not be mixed up, but may be considered separately. I shall, therefore, first state (from memory, for I am without notes), the circumstances connected with the very interesting and obscure case to which I have referred, and which was strikingly diverse from that of Mr. S. in the total absence of the intense suffering which characterized the latter; and, then, refer more particularly to the importance of the case of Mr. S., in establishing the nature of the post mortem appearances, which indicate the previous existence of peritoneal inflammation.

**CASE.**

The subject of the case was a large, healthy, and precocious child, of the age of 20 months. He became indisposed on the night of Thursday (10th March, 1842), being restless and feverish, but not complaining of pain. The next day he was languid and dull, indisposed to exertion, and unwilling to be amused. On the Sunday he appeared better, but on Monday relapsed into a dull, quiescent state, not seeking to leave his bed, disliking the approach of other children, and unwilling to be disturbed, yet without any marked symptom of disorder. He continued without much alteration till Thursday (17th), appearing to have no particular uneasiness, except a feeling of tenesmus, and an inclination to remain a long time at stool. During this time he had taken some doses of mild laxatives. He had made no complaint of pain or griping; there was no swelling of the abdomen; and no pain had been observed to be felt on handling him.

On Thursday evening, I was sent for, in consequence

of a sudden change in the symptoms, and on arriving found the child in a state of collapse—his face pale, skin cold, and pulse nearly extinct. The abdomen was free from tension or swelling; there had been no vomiting; and I elicited no sign of uneasiness when I pressed upon it. He had been put into a warm bath before I arrived, and had appeared pleased for a few moments, by slapping the water in a playful manner, but soon let his head fall back as if exhausted. Ammonia and brandy were administered; but he sank rapidly and expired, apparently quite conscious, and uttering his mother's name.

*Post Mortem.*—On opening the abdomen, the contents, at first view, exhibited nothing anomalous, but upon raising up the small intestines from below, all those portions that lay over the pelvis, or in contact with the cæcum, were seen in a state of intense inflammation, in parts, nearly black from extreme congestion. Endeavouring to discover the cause of this violent circumscribed action, I found the appendix vermiformis in its natural situation, and scarcely changed in colour; but on the left side a small portion was softened and broken down, exhibiting an aperture, the sides of which were quite diffuent. In handling the appendix, which was not enlarged, a hard substance filling its caliber was felt, and upon slitting up the tube, a small concretion, about 3-10ths of an inch long, and 2-10ths of an inch broad, and nearly cylindrical, was turned out. It was of a dull white colour, as if calcareous, and pretty firm, though crushed without difficulty between the finger and thumb. No fecal matter could be detected as having escaped; indeed, the concretion lay between the perforation and the natural opening into the gut.

The preceding case is of so anomalous a character that it may be regarded rather as curious than useful; and the imagination is taxed to give a reasonable interpretation of its phenomena.

The symptoms in the case of Mr. S. were such as we might naturally look for from a highly sensitive part undergoing the intense inflammation antecedent to mortification, but in the other case no indication was afforded of the fatal mischief which was taking place. If permitted to conjecture the course of the disease,



we may suppose that impaction of the solid substance first took place, which, proving a source of irritation, led to a very partial and subacute inflammation, terminating in ulceration and perforation; and that, when the latter occurred, it was immediately followed by general collapse, but with intense local action. I am quite at a loss, however, to account for the total absence of pain while the parts were thus violently affected. If, as I am disposed to believe, the inflammation in the neighbouring parts was owing to the escape of matters from the intestinal canal, they must have been gaseous, as no fecal matter could be discovered, and the concretion, though it did not distend, yet filled the caliber of the tube.

We have, exhibited in this case, one of those strange anomalies which pathology sometimes presents, and which we are obliged to leave undeveloped. It is one of the most striking instances of *latency*, in an affection commonly denoted by unequivocal symptoms, that I recollect to have heard of. It is true, violent peritonitis, pleurisy, pneumonia, &c. (as shown post mortem), do occasionally occur without any of the usual symptoms; but such cases are almost invariably accompanied or preceded by cerebral affection, which, as pointed out by many pathological writers, entirely masks the rational signs of these affections. In the present case, however, that explanation cannot be given, as the intellectual faculties appeared to be retained unto the last.

I was subsequently informed, that, although the child appeared quite well for several days before his attack, and had been remarkably healthy, there had occurred, at two or three different times, during the previous fortnight, fits of violent crying, the cause of which could not be detected, and which (as he, after having been pacified, showed no sign of illness) were attributed to passion.

I shall now proceed to consider the important light which the case of Mr. S. throws on

#### *The Post Mortem Appearances in Peritonitis.*

When I allow myself to apply the term "*important*" to the elucidation of a subject, which I believe is not at all a matter of doubt among pathologists in general, I have reference almost entirely to its local influence in removing erroneous opinions, and establishing fixed principles: and in order to make myself understood, and in order also to show the points upon which I desire especially to fix the attention of medical practitioners in the province, it will be necessary that I recall some circumstances of a disagreeable nature which occurred nearly three years ago.

It is obvious, that it is of the greatest importance for medico-legal investigations, that the signs of any lesion should be accurately defined. Vague apprehensions as to the appearances to be expected, might lead to most disastrous consequences. In like manner, for prosecuting merely scientific investigations, accuracy is required, or error might be the result. Hence, in endeavouring to point out what are the sure signs upon which we can predicate the previous existence of peritonitis, I believe I am doing a service to the profession.

In April, 1844, during a riot which occurred, a man, named Champeau, received a bayonet wound in the abdomen, and subsequently, after some days' illness, died. An inquest was ordered, and I was requested by the Coroner to assist at the examination of the body; and was subsequently called upon to give evidence before the Court. Dr. Nelson, having been the man's medical attendant, was likewise examined. He declared that Champeau had laboured under intense peritonitis—an opinion from which I, being necessarily bound to form my judgment from what I saw, entirely dissented. This discrepancy of opinion led to a subsequent controversy in the *Medical Gazette*, in which Dr. N. endeavoured to show that what I stated to be the usual appearances after peritonitis, viz., adhesions, effusion of lymph, of serum, &c., did not occur till the disease had existed a considerable time, and, consequently, that I was not warranted in asserting that peritonitis had not preceded death. His words are: "The medical gentleman seemed to rest his conviction that there was no inflammation on the absence of effusion, coagulated lymph; also, because there were no new adhesions: forgetting that those are the products of slow or sub-acute inflammatory action, and when present, prove that it had been protracted, and passed through some of its phases. It is only when the inflammation is less acute, that it provokes an increased action from the exhalents; that serum first, then coagulated lymph, and finally adhesions result;—this likewise takes place when the inflammation has been in part subdued, and assumes the chronic character; then, indeed, you have 'effusion' enough."—*Montreal Medical Gazette*, p. 169.

Having thus recalled enough of these bygone circumstances to make my subsequent remarks intelligible, I shall only add in reference to them, that I believe the opinion I had given was completely established by the proofs elicited in the discussion. Still, I have reason to think that there are many, (especially among those whose opportunities of post mortem examinations are not frequent), who are still uncertain as to what constitutes, in a dead subject, the evidences of a previous peritonitis. It is to the object of removing this uncer-

tainty, that the remaining portion of this paper will be devoted.

The Rev. Mr. S. was taken ill on Friday afternoon, and died on Monday at 2 A.M.\* The symptoms detailed show, that, till Sunday morning, the disease was confined to the appendix: there was not the slightest tenderness except at this one point. "At 9 A.M.," Dr. N. says, "we found a striking alteration, \* \* abdomen becoming tense; pain more diffused." At 1 P.M. "pain had shot all over the abdomen." Again, "It is worthy of remark, that so long as the pain was confined to the region over the appendix vermiformis, the pulse, skin, and general aspect, were those of inflammation of a mucous surface; but as soon as the pain spread at once all over the abdomen, then the symptoms characteristic of inflammation in the serous tissue, or peritonitis, became very striking."

It is admitted, then, that peritonitis commenced about 9 o'clock Sunday morning, and the patient died next morning at 2 A.M. Seventeen or eighteen hours intervened between the supervention of the peritonitis and the decease of the patient.

Now, if we find that in this very rapid case there were produced adhesions, or effusions, it must entirely overturn the opinion so confidently enunciated, that "when present, they prove that it had been protracted, and passed through some of its phases;" and as entirely confirm the opinion which I was compelled to adopt by the inspection of Champeau's body.

What were the appearances?

Dr. Crawford says, "On laying open the abdominal parietes, the peritoneal coat of the intestines, generally, was of a bright rose colour; and was in many parts covered by an exudation of coagulable lymph, particularly where the bowel doubled on itself; these knuckles were in consequence slightly adherent together: a few ounces of turbid serum commixed with lymph were found in the peritoneal cavity."

Feeling it impossible to increase the conviction that must arise in the mind as to "what are the post mortem appearances in peritonitis?" I shall conclude by quoting one of the most recent and excellent French authors, who broadly asserts that "THIS SECRETION (viz., lymph) IS THE VERITABLE ANATOMICAL CHARACTER OF PERITONITIS."

I thus translate the words of Grisolle, whose work was published in 1844:—

"It has been said that when patients die at a period very near the commencement, as 12 or 24 hours, the

peritoneum was found only injected, red, dry to the touch, and glistening. If, however, in these cases, we examine with much attention, there will be always found on some points an extremely thin coat of an albuminous matter, semi-concrete, which causes the convolutions of the intestines to adhere together. This secretion is the true anatomical character of peritonitis."

Montreal, February 22, 1847.

#### OBSERVATIONS ON THE CURABILITY OF OPACITIES OF THE CORNEA.

By HENRY HOWARD, M.D., M.R.C.S.L.

Surgeon of the Montreal Eye and Ear Institution.

It will readily be allowed that our information on the therapeutics of the eye, is still in its infancy, and consequently that there is wide scope for investigation under this head. My attention was forcibly arrested by an article quoted from a Dublin Journal, which appeared in the June number of the *British American Journal of Medical and Physical Science*, headed "Prussic acid in opthalmic diseases."

Opacities of the Cornea and their removal, have engaged my attention for a considerable period; and I have for some time kept a record of such cases, with the results, as have been treated by myself. Dr. Jacob's name must ever secure respectful attention with deference to any of his promulgated opinions; yet, if we always deferred to authority, where would be the boasted progress of the nineteenth century. Ought we blindly to bow to authority, and not seek to extend the bounds of knowledge?

Before proceeding further, I would beg to state that I highly appreciate the honour and opportunity I enjoyed of acquiring the opthalmic art under Dr. Jacob's tuition, and that I now feel grateful to him for the instruction imparted; and although the statements which follow directly impugn his assertion, I appeal only to facts, at the same time sensible that without his previous advances this point could not have been attained, viz.: the curability of opacities of the cornea.

Dr. Jacob, after alluding to the cases of opacity of the cornea, stated by Dr. Bigger to have been cured by prussic acid vapour, concludes by saying, "That the cures might be only apparent, and might perhaps with more justice be referred to the natural salutary processes of the animal economy, which in the course of time succeed to the formation of those opacities, whether it be the mere subsidence of inflammatory action, or the agency of the absorbents; but for my part, the conviction on my mind, for many years, has

\* In the account given in the last Number, P.M. is erroneously put for A.M. See *La Lancette Canadienne*, where the case is also given.

been, (and nothing that I have heard lately tends to shake it,) that however dense these opacities become, even were they as white as paper, they will be obliterated in time, unless the product of destructive ulceration in the cornea consequent on wounds or ulcers; unless in fact, they are actual cicatrices."

Cold comfort this to give to a poor fellow blind of both eyes from *nebulæ* or *leucomata*, that if he will only have patience, nature will cure him before he dies, or perhaps not; for, says Dr. Jacob, surgery can do nothing for him.

Now, from considerable experience, I assert that a majority of cases of opacity of the cornea are curable or susceptible of great amelioration, and even in many of those opacities caused by cicatrices, their extent may be diminished, and vision restored to a greater or less extent.

If a case of blindness from opacity of the cornea presents itself to me, of many months or years standing; and that under treatment the opacities are removed, and sight restored in from four to six weeks, have I not a right to conclude that the treatment operated the cure, if not, then no fact in therapeutics is sure: *a fortiore*, if many such cases present themselves with similar results, the inference must be irresistible.

I propose to give two cases severally of *albugo*, *leucoma*, and *nebula*, their treatment and results. During thirteen months, forty-eight cases of opacity of the cornea have been treated at the Montreal Eye and Ear Institution, of which twenty-three were *nebulous*. Of these, eighteen were cured and five relieved: of eighteen with *albugo*—twelve were cured and six relieved; of seven with *leucoma*—six were relieved, and one abandoned as incurable. In selecting the following cases, I wish it to be understood that, if desirable, I could furnish many more.

#### CASE 1.—ALBUGO.

Mary Harrigan, æt. 30, wife of a labourer, April 2<sup>d</sup> 1846, had had sore eyes for three years; for a year had merely distinguished the light, and the outline of large dark objects, and had not been able to go alone through the streets. She had an *albugo* on the right eye and three on the left, completely obstructing vision. Perfectly cured in six weeks. Treatment—fumigations with hydrocyanic acid every day for ten minutes; after the lapse of another ten minutes, put one drop of a solution of nitrate of silver, gr. x. a ʒi. into the eyes. For first fortnight took a wine glass full of the following mixture every morning—

- ℞ Infusi Gentianæ, ʒ viii.
- Sulphatis Magnesiæ, ʒ i.
- Acid Sulph. Arom., 3ss. m.

#### CASE 2.—ALBUGO.

Feb. 8, 1846.—Ann O'Berne, æt. 26, a servant, has been gradually losing the sight of the left eye for some time, but had lost it completely for the last eight months. Dr. —, to whom she had applied, told her nothing could be done. On examination, I found an *albugo* completely obstructing the pupil of the left eye, in fact, occupying the whole cornea. Cured in two months. Treatment as in preceding case.

#### CASE 3.—LEUCOMA.

Dec. 26, 1846.—John Gilliland, æt. 22, a ploughman, had *leucoma* of both eyes, completely occupying the left cornea, and preventing all ingress of light. The lower third of the right cornea was imperfectly clear, allowing of sufficient light to pass to enable him to guide himself through the street. Sufficiently cured in three months to guide the plough, a very small spot only remaining on the right cornea, and that not over the axis of vision; a small round spot over the axis of vision on the left cornea was removed. Treatment—daily fumigation of the eyes with hydrocyanic acid, and the subsequent application of Janin's opthalmic ointment, and every ten days the application of the solid nitrate of silver to the cornea. Internally took gentian and salts.

#### CASE 4.

Feb. 11, 1846.—David Wark, æt. 14, some time previously had received a severe blow on the left eye with a stick, which had ruptured the cornea horizontally, and in healing had left a cicatrix about three lines broad across the eye; to the outer side of the cornea the iris had prolapsed and become attached to the cicatrix. He saw only the upper and under part of each object. Dismissed in six weeks with the cicatrix reduced to a mere line, and, by his description, the vision as good as in the right. Treatment—daily fumigations with vapour of hydrocyanic acid, and a small portion of the following ointment put into the eyes each day—

- ℞ Ungt. Ophthal. Jan.
- Hyd. nit.
- Cetacei aa ʒi. m.

#### CASE 5.—NEBULA.

June 11, 1846.—Robert Hughes, æt. 55, a veteran, was led to the Institution by his wife; the right eye was destroyed, and vision in the left was completely prevented by *nebula*, both the result of inflammation. He had just arrived from New York, where he had been under the surgical treatment of the most eminent practitioners in that city, and hitherto the case had only gone on from bad to worse. After two months' daily attendance, he was discharged with very fair vision, sufficient to enable him to transact his ordinary business. Before returning to Wales, his native country, he left a certificate with

me (as a voluntary effusion of gratitude), stating the benefit he had received under my care.

The treatment consisted in daily fumigations with hydrocyanic acid,—a drop of 10 grain solution of nitrate of silver, and after insulating him, drawing electric sparks from the eye and surrounding orbit.

#### CASE 6.—NEBULA.

S. M., æt. 13, called on me, May 2, 1846, complaining of dimness of vision of right eye, which had existed since he had had the measles in infancy. Had been treated unsuccessfully in New York by several oculists. The whole cornea was obscured by nebula; was perfectly cured in six weeks. Treatment—daily fumigations with hydrocyanic acid, and application of 10 grain solution of nitrate of silver. During the treatment, he took a considerable amount of the ioduretted solution of the iodide of potassium.

*Note.*—Janin's ophthalmic ointment is made as follows:

R Bol. Armen.  
Tutia Prep. aa 3ii.  
Hyd. Precip. Alb. 3i.  
Axungie, 3i. m.

#### CASE OF PERIOSTITIS, TREATED BY IODIDE OF QUININE.

By J. DUNCAN M'DIARMID, Esq., Staff Surgeon, Prescott.

Mr. M., of Ogdensburg, U. S., a young man of regular habits, and of a generally healthy appearance, and never having suffered (as stated to me), from syphilis in any shape whatever, applied to me under the following circumstances:—

He stated that during the summer, (it being autumn when he consulted me,) he had had an attack of bilious fever, but that his general health had been very good, until about three weeks or a month back, when having travelled all night in a waggon, the weather being very cold at the time, he became affected with severe pains of a rheumatic character—particularly severe at night—by which he was deprived of rest till toward morning, when he experienced some remission, and continued literally free from suffering during the day; complained, at the same time, of night sweats, and loss of flesh and appetite; while over the frontal bone on the left side, and over the upper third of the sternum, were nodes of a considerable size, with symptoms of something of the same nature about the middle of the left humerus, which, however, could not be felt. The "headache" in the frontal region was so severe at times, as to be almost intolerable, the nodes had attained their present size in the course of about three weeks.

I prescribed cold bathing daily, by means of a wet towel out of cold water, rubbing the skin smartly from head to foot; diet as usual; no stimulants; and the

iodide of quinine, as prepared by Staff Surgeon Dr Spence, (*Montreal Medical Gazette*, Vol. i. Page 2.) In the course of about three weeks, the nodes and the distressing symptoms generally, had nearly disappeared, and in less than six weeks he was quite recovered.

Prescott, January 18, 1847.

#### CRITICAL REMARKS ON THE LABOURS OF E. S. DE ROTTERMUND, ESQ., LATE CHEMIST TO THE PROVINCIAL GEOLOGICAL SURVEY.

By H. CAWFT, Esq., Prof. of Chemistry, King's College, Toronto.  
*To the Editor of the British American Journal.*

Some time since you were kind enough to publish in your excellent Journal (Vol. II. No. 2) some of my notes respecting the Tuscarora Sour Spring, near Brantford, in which I announced the very interesting fact of its containing free sulphuric acid; but the examination was very imperfect, partly from my want of leisure, but more from lack of material. In a note appended thereto, you mentioned that Mr. De Rottermund had discovered antimony in the same spring; and, in my letter of the 12th June, published in the August number, I fully proved the incorrectness of his analysis, or (to speak more correctly) of his statement, for I cannot believe that he ever made any analysis of the water.

In my first paper, I mentioned that it was my intention to proceed during the summer vacation to the spot, and thoroughly examine all the circumstances connected with this very curious spring, which may properly be called one of the wonders of Canada. I was prevented from so doing by untoward circumstances; and, as I wished my next communication on the subject to be a complete and final one, I should not as yet have put pen to paper concerning it, had it not been for the recent appearance of a pamphlet entitled, "Report of E. S. De Rottermund, Esq., Chemical Assistant to the Geological Survey of the Province,—Printed by order of the Legislative Assembly," in which this spring and its constituents are mentioned.

Mr. De R. seems to have obtained results widely differing from mine; and, as my character as an analyst must fall to the ground if his statements should be proved to be correct, I have no hesitation in requesting you to insert the following critical remarks on his assertions.

I shall first refute Mr. De R.'s statements contained in that part of the pamphlet most interesting to myself, and shall afterwards take the liberty of making a few remarks on the other portions of this highly amusing and most extraordinary publication.

\* In justice to Mr. Logan, the talented gentleman occupying the distinguished position of Provincial Geologist, we must observe, that the report of Mr. De Rottermund was not printed with his sanction, nor has he anything, whatever, to do with its appearance.—Ed.

At page 4, Mr. De R. says, "For the same reason, I have called the acid springs of Brantford antimoni-ferruginous, on account of the presence of that substance (Query, what substance—antimoni-ferruginous?) only recently found in mineral waters; and because it is one of the most remarkable substances as a remedy for several diseases."

Your medical readers, who may be fond of *medica* will no doubt be glad to add this new substance antimoni-ferruginous to their Pharmacopœas, but I doubt whether any one besides Mr. De R. will ever find it in the Tuscarora Spring.

In the succeeding sentences, Mr. De R. objects to its being called an acid spring, and desires that it may be known by the above name proper to its composition. As I have shown it to be strongly acid, from the presence of free oil of vitriol, I do not see any objection to the name, especially as the carbonic acid springs are generally called "carbonated waters."

At page 10, Mr. De R. enumerates the substances contained in the spring, viz., hydrosulphuric and carbonic gas (I quote his words), sulphate of protoxide of iron, sulphate of alumina and potash, chloride of antimony, chloride of zinc, sulphate of magnesia and of lime, resinous substances, and vegetable albumen; from which no one would conclude that there is any free sulphuric acid present at all.

Mr. De R. speaks of three or more springs. That which I formerly examined was from the middle spring. Its specific gravity was 1.0038; it contained peroxide of iron, arising probably from its having been long kept. *It contains no antimony*, as I have again proved by new experiments. Some time since, through the kindness of Mr. William Boulton, I was put in possession of three small bottles of the water from the north, south, and middle springs. They were well sealed; but the water contained no trace of hydrosulphuric acid, which, however, does not prove that this gas may not be present in the fresh water.

The water from the Middle Spring had a specific gravity of 1.0037 at 50° Faht., and contained no antimony.

From the North Spring, spec. grav. 1.0030—no antimony.

" South " " 1.0060 "

Mr. De Rottermund says the water contains zinc. Water from each of the three bottles was treated with ammonia in excess—the filtered solution treated with hydrosulphuret of ammonium—

Middle Spring—contains no zinc.

North " " "

South " " "

Mr. De R. says the water contains chlorine. Water from each of the bottles was treated with nitrate of silver—

Middle Spring—a scarcely perceptible opacity, hence little or no chlorine.

North Spring—no change, hence no chlorine.

South Spring " " "

The water from all the three springs contains protoxide of iron, as is shown by the greenish precipitate caused by ammonia; but the south spring contains the smallest quantity of protoxide, the precipitate consisting almost entirely of peroxide.

Several ounces of water from the middle spring were boiled with nitric acid and precipitated with ammonia; the precipitate washed and digested with a solution of caustic potash, the filtered solution neutralized with hydrochloric acid and precipitated with ammonia—a slight trace of alumina was found. In my first analysis I found peroxide, and not protoxide of iron, which was most probably caused by the oxidation of the protoxide from long keeping. This water was clear and colourless, while the specimens given to me by Mr. Boulton were of a yellowish colour.

I have shown in my first paper that the spring contains lime and magnesia; these were removed (after the separation of iron and alumina) by the well known process of precipitation by acetate of baryta, &c. &c. The treated residue boiled with water, the solution filtered, evaporated to a syrup, mixed with alcohol, and inflamed, communicated a slight tinge of yellow to the flame, showing the presence of soda; the residue dissolved in a very small quantity of water, and treated with bichloride of platinum, gave a yellow precipitate indicating potash.

I have, therefore, shown, that of the substances (exclusive of gases) said by Mr. De R. to exist in this spring, viz., iron, alumina, potash, chlorine, antimony, zinc, magnesia, lime, resins, and albumen, three are certainly not present, viz., zinc, antimony, and chlorine. That resinous substances should be present seems to me to be utterly impossible, for any work on Chemistry will inform Mr. De R. that resins are *insoluble* in water. The presence of vegetable albumen seems equally problematical, for its sulphate is insoluble in acid solutions, and no precipitate is formed in the Tuscarora water, either by ferrocyanide of potassium, or by bichloride of mercury (corrosive sublimate).

i Organic substances certainly are present, for if the iron and alumina be precipitated by ammonia, and the residual solutions evaporated to dryness and heated, considerable blackening takes place; but we know that crenic and apocrenic acids are frequently found in mineral springs (Berzelius, Hermann), and we know that these acids combine with protoxide of iron to form soluble salts, while they produce insoluble ones by their union with the peroxide; and knowing, moreover, that

these or similar acids are found in rotten wood, in ochre, and in numberless putrefying vegetable productions, it is easy to account for the presence of organic matters in this water, without reference to such out of the way substances as resins and vegetable albumen.

Of the ten substances found, therefore, five may fairly be presumed to exist only in Mr. De R.'s imagination.

At page 10, five lines from the bottom, we read, "The earth is filled with sulphur crystallized in fine grains." I have some of the earth, which, as might naturally be supposed, exhibits nothing of the kind. It contains iron and sulphuric acid; but of this more on a future occasion.

At page 11, we have a very interesting statistical account of the diseases prevalent at Brantford, and of the cures effected by the water. This portion of the pamphlet I will leave to the critical acumen of your medical readers; but I may remark that the cures are not to be ascribed to the presence of Mr. De R.'s "antimoni ferruginous," but simply to that of free sulphuric acid, for every one, who is even as little acquainted with medicine as I am, must be aware that sulphuric acid is, or has been, employed in inflammation of the eyes, in cutaneous diseases, and in the treatment of sores.

At page 12, we have the following passage, which I am sure you will excuse my quoting at length, inasmuch as I am quite certain you wish to amuse as well as instruct your readers:—

"It may be useful to remark, that if water containing zinc and potash (!), as well as alum combined with potash (!), is very scarce (perfectly true), water containing antimony is still more important on account of its still greater scarcity and medicinal power. The salts of antimony are of the greatest value, on account of the great difficulty of preparing them properly; for the chloride of antimony becomes decomposed in water, while here it is produced by the presence of the acid, and of organic matter. The discovery of antimony in a mineral spring is undoubtedly an immense advantage for the science of medicine; for the same substance prepared artificially is never so efficacious as when found in water, &c. &c. &c. I will take the liberty of explaining the theory of the formation of this antimoni ferruginous spring, and of explaining the cause why the antimony is in solution without being decomposed or precipitated by the water. According to geological researches, it is known that this place contains a great many marshes, iron pyrites, lead ore, zinc, and antimony, as well as beds of gypsum. Water running through iron pyrites or gypsum, by some chemical or other phenomenon, becomes decomposed, and charged with a quantity of sulphuric acid; (the waters of this spring prove its presence in a very decided manner;\*) the water so acidulated, passing through turf or a marsh covered with vegetation, must contain vegetable albumen which I have found, organic acids, resinous substances, &c. If the water thus charged passes afterwards

through beds of ore of antimony, it is natural that it will dissolve the substance without precipitating it."

In the first place, the statement of any preparation of antimony prepared artificially not being as efficacious as when found in water, is, *in abstracto*, a decided fallacy. I believe (speaking under correction) that the idea of springs possessing peculiar virtues, not to be imitated by artificial means, is now entirely exploded. But let us look at Mr. De Rottermund's theory, and we will suppose that all the substances he requires do really exist in the neighbourhood. Did any one ever hear of water being decomposed when in contact with sulphate of lime, and becoming charged with sulphuric acid? In that case half the springs known in the world should contain it. Mr. De R. very properly adds, "by some chemical or other phenomenon." But by means of iron pyrites sulphuric acid might be formed; this, says our author, passes through turf or marsh covered with vegetation, and becomes charged with vegetable albumen (!), organic acids (here mentioned for the first time), resinous substances (!), &c. &c. &c. Now, this solution, "passing through beds of ore of antimony, will naturally dissolve the substance without precipitating it;" that is to say, water containing sulphuric acid, resins, albumen, and crenic acid, will dissolve an ore of antimony (probably the sulphuret). I am afraid Mr. De Rottermund is like the facetious old gentleman, who, hearing a friend cry out, "*lapsus linguae*," when his servant let fall a boiled tongue, caused his own attendant to be equally awkward with a round of beef, and expected to gain great applause by a repetition of the witticism.

Mr. De R. has heard that when the oxide or sulphate of antimony is boiled with bitartrate of potash the oxide is dissolved; and that the precipitancy of the oxide, or basic salt of antimony, by means of water is prevented by the addition of some organic acid, and he wishes us to believe that something similar takes place in the present instance. Let him believe it who can. Besides, he need not have given himself the trouble of accounting for the antimony, because there is none there; which puts me in mind of the twenty-fourth reason for not ringing the bells, viz., because there were no bells to ring.

In the preceding remarks I have shown the utter fallacy of Mr. De Rottermund's statements with regard to the Brantford Springs; and in my next communication I shall take the liberty of endeavouring to prove similar inaccuracy in the remaining portions of the pamphlet. I may, however, remark, that it is scarcely necessary to attempt a refutation, for Mr. De R.'s statements are unsupported by experiments, or the descrip-

\* Here mentioned for the first time.—H. C.

tion of one single analysis either quantitative or qualitative. I have not found in the whole pamphlet so much as a statement regarding the specific gravities of the waters spoken of, except in one place, and in that the numbers had, I believe, been determined by other chemists.

Without some such guarantee, Mr. De Rottermund cannot expect that any one of his statements will be believed by the scientific portion of the people of Canada, although it is probable that so flourishing a report may obtain credence among those who may have as inaccurate a knowledge of chemistry as even Mr. De Rottermund himself—a portion of the community which, it is to be hoped for the credit of the country, will be found to be exceedingly small.

Toronto, 9th Jan., 1847.

## ANATOMY AND PHYSIOLOGY.

### THE ANATOMY OF THE EXCITO-MOTOR SYSTEM.

By MARSHALL HALL.

The history of the protracted disputes on this topic would be full of instruction, but it is not my present intention to write on it. My object is, to lay before the readers of the *Lancet*, in a few words (I am always afraid of occupying their time and my own needlessly), the argument, or rather, the plain and simple proof, of the distinct anatomy of the excito-motor system.

Does any one doubt the distinct anatomy of the system of cerebral nerves—of the nerves of sensation and volition?

The very same proof which exists of this part of the nervous system, exists in regard to the excito-motor system. It exists in the pneumogastric nerve, or, as it may be better designated, the pneumogastric system of nerves.

If the pneumogastric be sentient at all, it is the least sentient of all incident nerves. What is it then? It is excito-motor! It is, emphatically, the internal, excito-motor nerve!

Why go to complex structures, when a simple one exists? Why go to the lower order of animals when the mammalia, and even the human being, afford us the proof we require?

The superior and the inferior laryngeals are the associated excitator and motor nerves of the larynx.

The bronchials are associated excitator and motor nerves of the bronchia.

The pharyngeals and œsophageals are associated excitator and motor nerves of the pharynx, of the œsophagus, and of the cardia.

Lastly, and most strikingly, the pulmonic part of the pneumogastric nerve is, as the associate of the diaphragmatic and intercostals, the internal excitator of respiration.

There is, in short, as I have said, the same proof of the distinctness of the excito-motor system of nerves, as of the sentient and voluntary, and it is both idle and ridiculous to dispute the fact any longer, or to appeal to other parts of the nervous system than the grand pneumogastric, or to other tribes of animals than the mammalia, for proofs not needed. As confirmations of a truth already established, these researches are, of course, interesting enough. I am myself preparing a paper on the pneumogastric system of animals of limited and of diffused respiration—in the mammalia; and in birds and insects. In birds, the spinal nerves are, doubtless, in their distribution to the diffused breathing cells, analogous to the pulmonic branches of the pneumogastric. In insects, each segment with its spiracles (analogous of the larynx, trachea, and bronchia), is endowed with a nervous system entirely analogous to the laryngeals, and to the pulmonic branches of the pneumogastric, and the diaphragmatic, or intercostals! Then we have to inquire into the nature and office of the lateral nerve in fishes. As in birds, the respiratory nerves are, probably, equally used for flight and for respiration; so in fishes, the lateral nerve is, probably, for swimming and for respiration.

But to return to my topic. The proof of the distinct anatomy

of the excito-motor system is afforded by the pneumogastric—the internal, purely, or almost purely, excito-motor nerve.

If, however, we would examine other and more complicated tissues, the proof lies, not, I fear, in the dissection and tracing of fibres, but in physiological experiment; the cerebral system is, as tested, *in-excitator* throughout—in its centre, in the nerves of special sense; the excito motor system is, in its centre, and in its incident and reflex relations, what its designation implies.

It is pitiable that there should any longer be any dispute on the subject, or that detraction should still attempt to wrest the credit of adducing the proof, in any degree, from myself, or from physiology.

Amongst other attempts of this kind, one has been to propose a change in the designation which I had given to the nerves of the reflex arc—and a most unfortunate change, too. The terms incident and reflex imply some very definite association, or *Law relation*, between the two—a real phenomenon of the most remarkable kind. But the terms *afferent* and *efferent* are, in this respect, utterly insignificant; whilst the meaning which these words do convey, of something borne to and from, is probably altogether erroneous.

The ray of light, which is now incident and immediately afterwards reflected, is the *same* ray, modified, directed, and returned by the reflector, whether it consist in locomotive particles, or in vibration. The same idea is attempted to be conveyed by the terms incident and reflex nerve. There is, in these nerves, and in their connection through the spinal marrow, some extraordinary recondite connection, so that, for example, the excitation of the superior laryngeal sends forth some mysterious messenger to the medulla oblongata, whilst this returns it in the just channel, the inferior laryngeal, so as to effect the closure of the larynx; whilst the excitation of the pulmonic branches of the pneumogastric excites, through the diaphragmatic and intercostal nerves, the contraction of the muscles of inspiration, precisely, definitely, and no other.

The ordinary reflexion of a ray of light, or the polarisation of a ray of light, is not more definite.

The effect produced is obviously *designed*, not by the animal—for its brain may be removed without interfering with this process—but by an omnipotent Creator. This obvious design has misled many to think that there are feeling and volition in the spinal marrow.

The terms incident and reflex are therefore full of meaning; whilst the terms *afferent* and *efferent* either convey no meaning at all, or an erroneous one. In this suggestion, the *Law of association* of the effects of excitement, its incident course, its modification and direction by the spinal marrow, its reflex course and destination, were unperceived.

How much, then, is conveyed or implied in that one word, *reflex*—incidence, reflexion, appropriate combination, and destination! And how devoid of all meaning are the words *afferent*, and *efferent*, not very modestly attempted to be substituted for it!

I beg my reader to study and compare the physiological movements in the acts of inspiration, with their pathological forms in asphyxia: the first are reflex, normal, and beautifully appropriate; the second are, in respect, abnormal and deranged.

My opponents are much disposed to speak of the class of reflex actions, in general terms, as known to Redi, Whytt, &c. This is another ill-chosen but deceptive phrase. The reflex actions, as I have *always* said, were spoken of by many previous physiologists; but the phrase I have adopted from the very beginning,—for the very title of my first paper,—was *reflex function*; and this expression, with its fullness of meaning, as applied to all the acts of ingestion and egestion in the animal economy, had been used, could have been used by no one; for as the idea of an incident excitator nerve, with its physiological relations, did not exist in anatomy, so the idea of a reflex function, with its anatomical relations, did not exist in physiology.—*Lancet*.

## PRACTICE OF MEDICINE AND PATHOLOGY.

### ON THE USE OF CAUSTIC FOR THE BITE OF RABID DOGS.

“The best caustic, I apprehend, for you to use on these occasions is the caustic potash; and for this reason: that it dissolves the parts with which it comes in contact, and that afterwards the dissolved caustic penetrates still further beyond the part to which



has been actually applied. If the tooth penetrate to the cellular membrane, by the time that you are consulted some of the saliva may have reached the cells beyond and if you apply the nitrate of silver, or the nitric acid, these will coagulate the fluids and harden the solids, while the caustic potash becoming diffused will allow the course of the saliva. A convenient way of applying the caustic on these and some other occasions is this: melt it in a silver or platina spoon, and, when melted, dip into it the blunt end of a probe. It will come out with a varnish of the caustic upon it; dip it in again until the button of caustic has attained a sufficient size. By means of a probe thus armed you may carry the caustic even into a very narrow wound, so that you are sure it will penetrate wherever the dog's tooth has penetrated; after which, from the particular nature of the caustic (as I have just explained) you may be certain that it will penetrate still further, and as far as the poison can have reached."—*B. Brodie.*

#### CAUTION IN THE USE OF CAUSTIC TO THE SCALP.

The application of caustic to tumours on the scalp must be made with great caution, as appears from the following case:—

"A surgeon applied the caustic potash to the scalp, with the view to make an issue in a man's head, who was labouring under headache and nothing else. When the slough had separated a piece of the occiput was exposed, as large as half-a-crown or larger. The patient was soon seized with a sort of strange symptoms, and died. It was found that the dura mater had become detached from the inside of the bone, just opposite the part where the pericranium had been destroyed on the outside; and it was clear that the sloughing of the dura mater was the cause of the man's death."

When the caustics are used, it is prudent to have some counter-agent at hand to stop their action on the sound parts around. Acids may be neutralized by alkalis; caustic potash may be neutralized by vinegar, or by a solution of the diacetate of lead. If you are afraid of the nitrate of silver burning the neighbouring parts, its action may be neutralized by common olive oil. A solution of bicarbonate of potash will decompose chloride of zinc, and so of other caustics."—*Med. Chir. Rev. July, 1846.*

#### ON THE EFFECTS OF MERCURY ON THE YOUNG SUBJECT.

by JOHN B. BECK, M. D., Prof. of Materia Medica and Medical Jurisprudence, in the College of Physicians and Surgeons, of New York.

In some previous papers,\* I endeavoured to point out the peculiarities attending the operation of opium and emetics, on the infant subject, as distinguished from the effects of these agents in the adult. I now propose to make some remarks on another article of even still greater importance, and that is *Mercury*. That mercury is an agent of immense power, either for good or evil, upon the human constitution, cannot be questioned. While in many cases it is the means of saving life, in not a few it unquestionably destroys it. If this be so, it becomes a question of the deepest practical interest, to determine whether its action is modified in any way by the age of the patient, and particularly so, when it is recollected that it is given by too many physicians, even more freely, and may I not add indiscriminately, to the young subject than to the adult.

The first and most striking peculiarity attending the action of mercury, is that in young subjects, it does not produce salivation so readily as it does in adults. Indeed under a certain age, it appears to be exceedingly difficult to excite salivation at all in them. On this point, besides our own experience, we have abundant testimony. Dr. Clark says "under various circumstances he has prescribed mercury, in very large quantities, and in a great number of cases; and he never produced salivation, except in three instances, in any child under three years of age."† Dr. Warren, of Boston, observes, "that he has never known an infant to be salivated, notwithstanding he has given in some cases,

large quantities with this view."‡ Mr. Colles, of Dublin, says, "no man in the present day requires to be told that mercury never does produce ptyalism, or swelling and ulceration of the gums in infants."† Dr. Evanson and Maunsell speak still more strongly. They say, "mercury does not seem capable of salivating an infant. We have never seen it do so, nor are we aware of any such case being on record." "We have never succeeded in salivating a child under three years of age."‡

The same general fact seems to be applicable to the external use of mercury. Dr. Percival, of Manchester, remarks, that he "repeatedly observed that very large quantities of the Unguentum Cæruleum may be used in infancy and childhood, without affecting the gums, notwithstanding the predisposition to a flux of saliva, at a period of life incident to dentition."§

That salivation does not take place so readily in the infant as in the adult, would seem then to be well established. That it never can or does take place, as might be inferred from some of the preceding quotations, is by no means, however, true; and the statement, if implicitly relied on, is calculated to be the cause of much mischief. That very young subjects do sometimes become salivated, is unquestionable. One case, and only one, however, has occurred in my experience, in which a child of two years of age was salivated, and that by a very moderate quantity of calomel, viz., five grains, given in three portions, at intervals, within the space of about twelve hours. In about two days after, the gums became inflamed, the tongue swelled, several ulcers appeared in the mouth, and the flow of saliva was free; after continuing about three days in the same state, it gradually yielded, and disappeared without any further inconvenience. In this case every thing seemed favourable to the development of mercurial action. The child had been labouring under whooping-cough for several weeks, and was a good deal reduced. It vomited freely with every paroxysm of coughing, and this no doubt aided in bringing on salivation, in a constitution peculiarly sensitive and evidently scrofulous. Nor is this a solitary case. Dr. Clarke, already quoted, admits that in three cases salivation was produced in children under three years of age. And similar cases have been observed by others. Dr. Blackall relates the case of a child, two years of age, who was salivated in consequence of taking two grains of calomel for several successive nights. The child was a poor scrofulous subject, and it sunk under the effects of the mercury.

This, then, is a remarkable peculiarity in the action of this agent upon the infant subject, and the observation of it has doubtless led to the belief, too prevalent among some physicians, that it may be given to them to almost any extent with perfect impunity; an error, which, if not in its immediate, yet certainly in its remote effects, has been the prolific source of more mischief, probably, than any of us are aware of.

Although mercury so seldom salivates infants, yet, notwithstanding this, it cannot be doubted that it affects the system profoundly, and even more so proportionally than it does the adult. That it should do so appears perfectly natural, when we reflect upon the mode of its operation on the human system. On this subject, I am aware that a great difference of opinion exists. By some, mercury is looked upon as a stimulant; while others view it as a sedative. A familiar acquaintance with its effects, however, will show, I think, that it may be the one or the other, according to circumstances—according to the dose in which it is given—the length of time it is continued, and more especially, the condition of the system at the time of using it. A single large dose of calomel will cause nausea and relaxation, and sometimes unpleasant prostration, while if it be given in smaller doses and repeated frequently, it will occasion irritation of the intestines, and general disturbance of the vascular and nervous systems. In the former case acting as a profound sedative, and in the latter as a stimulant, or rather irritant. That calomel given in large doses operates as a sedative, seems to be proved, not merely by the

\* View of the Mercurial Practice in Febrile Diseases. By John Warren, M. D., p. 146.

† Practical Observations on the Venereal Disease and on the use of Mercury. By Abraham Colles, M. D., p. 171. American Edition.

‡ Treatise on the Management and Diseases of Children, p. 88.

§ Essays, Medical and Philosophical. By Thomas Percival, M. D., vol. 2. p. 318.

\* New York Journal of Medicine and the Collateral Sciences. Vol. 2, p. 1. Vol. 7, p. 153.

† Commentaries on some of the more important diseases of children. By John Clarke, M. D., p. 182.

nausea and prostration which it frequently produces, but by other considerations. In dysentery, for example, in the adult, a dose of 20 grains of calomel will sometimes allay pain and irritation, with as much certainty as a dose of opium. For the purpose of testing the effects of calomel, some interesting experiments were made by Mr. Annesley, which would seem still further to show, that in large doses the action of this agent upon the mucous membrane of the stomach and intestines, is that of a sedative. He took three healthy dogs, and gave to one, 3j., of calomel, to a second, 3ij., to a third, 3iij. After this they were tied up in a room.

"The dog which took 3j., did not appear to feel any kind of sickness, till six or seven hours afterwards, when he vomited a little. He was lively the whole time, and ate his food well; had been purged two or three times; dejections of a black gray colour.

The dog which took 3ij., was likewise lively, and ate his food well, vomited two or three times, and was purged more than the other; he passed tape worms, and the dejections were black.

The dog which took 3iij., was heavy, and apparently uncomfortable the whole day, and did not vomit at all; he was purged, and passed a very long tape worm; dejections also black."

Twenty-four hours after they had taken the calomel, the dogs were all hung, and in five minutes after they were dead, they were examined, and the vascularity of the stomach was found to be in the inverse ratio of the calomel they had taken; i. e., in the dog which had taken 3iij., the vascularity was the least, and so on. For the purpose of comparing this with the condition of the stomach of a dog which had taken no calomel at all, an examination of another dog was made; and here the stomach was found to be *more vascular* than in any of the others. From these experiments, Mr. Annesley drew the conclusion, that "the natural and healthy state of the stomach and intestinal canal is that of high vascularity, and that the operation of calomel in large doses, is directly the reverse of inflammatory."\*

The foregoing considerations would seem to show that calomel in full doses is a local sedative, and in its general effects, is debilitating to the system at large. Hence its great utility and value as a remedy in many inflammatory diseases.

When, on the other hand, it is given in small and repeated doses, it acts not unfrequently as a local, as well as a general irritant, producing immoderate action of the bowels, and general irritation of the nervous and vascular systems. Now, these, we know, are the effects observed continually in the adult, and it is but reasonable to suppose that all of them must, as a matter of course, be aggravated in the more delicate and sensitive system of the infant.

What shows incontestably that the action of mercury is actually more energetic on the infant than the adult, is the fact, that when salivation does take place in the former, as it sometimes does, its effects are more disastrous. Sloughing of the gums and cheeks, general prostration and death are by no means uncommon occurrences. On this subject, Dr. Blackall justly remarks, "a general opinion prevails, that the constitution of young subjects resist mercury. Its entrance into the system they certainly do resist, more than we could expect; but they are greatly overcome by salivations, and the possible occurrence of such accidents may well set us constantly on our guard."† Dr. Ryan, too, says, "Ptyalism of infants is often followed by sloughing of the gums and cheeks; and this I have known to occur after the use of it in Hydrocephalus."‡

Besides being more energetic in its action on the infant, mercury is also more uncertain. This must necessarily be the case, and for the same reasons that every other active agent is so. In the adult we know that mercury varies in its effects, according to the condition of the system, and the peculiarities of the patient's constitution. Thus some persons are salivated by the smallest quantity of this metal, while others resist the influence even of the largest quantities. In some, febrile action; in others, diarrhoea and exhaustion take place, even from moderate doses. Hence it

is, that every prudent physician, if unacquainted with the previous history of his patient, makes it a special subject of inquiry to ascertain whether he has ever taken mercury previously, and how it affects him. Now, in the young infant, of course, as we cannot so well have the benefit of this information, more uncertainty must necessarily attend its operation.

These, then, are the peculiarities attending the operation of mercury on young subjects, viz: that they are salivated with great difficulty, and that notwithstanding this, the effects of it are frequently more energetic and uncertain, than they are in the adult. And it is upon these as the basis, that I propose to make a few remarks bearing upon the practical application of it in young subjects.

1. If salivation occurs so rarely in children under a certain age, then it is evident that it can never be made a criterion by which to judge of its influence on their systems. To attempt, therefore, to produce this effect, as we do in adults, is manifestly improper. In cases where it is desirable to get the system under the full influence of the remedy, other modes must be resorted to for the purpose of judging to what extent the use of the article should be carried. Now this is by no means easy. Even in adults, where we have the benefit of salivation as a test, all practical physicians are aware how difficult it is, frequently, to decide when it is proper to stop the use of the remedy. How much more so must this difficulty be increased in the young infant, where we are left without this guide. The only modes of judging, of course, are the character of the evacuations from the bowels, and the general impression made upon disease for which it is administered. Both these are evidently, however, uncertain. It is to be feared, therefore, that for the want of a more certain guide than we at present possess, the use of this remedy is, in many cases, unnecessarily protracted to the great detriment of the little patient. From all this the conclusion is obvious, that in the use of this article in the young subject much greater caution is necessary than in the adult.

2. The fact that mercury may prostrate and destroy a young child, even though it does not cause salivation, it is to be feared is not sufficiently appreciated, at least by some. We have known calomel given without weight or measure, to a young child, and the reason assigned to justify it was, that it could do no harm, because it would not salivate. Now it appears to me that no opinion can be more unfounded, and no practice more mischievous. Although a single dose of calomel, even though large, may be well borne by children of ordinary strength of constitution, yet even this is not entirely safe in all cases. And when these doses are frequently repeated, particularly in delicate habits, the most serious consequences may result.

3. The use of mercury in young subjects as an alternative, should in all cases be conducted with great caution. There is no practice more common than that of continuing the use of this agent in small doses, for a considerable time, and certainly none which is more liable to abuse. Under the idea that the dose is so small and from no salivation appearing, we are apt to infer that even if the medicine is not doing any good, it is certainly not doing any harm. Any improvement, too, which occurs during the use of the article, is sure to be attributed to the silent operation of it on the system. Now, although this is not unfrequently the case, yet it is not invariably so; and every observing physician must have been aware of cases, in which, in this way, the article has been unnecessarily and injuriously continued. In bowel complaints, under the idea of altering the secretions, it has frequently, no doubt, helped to keep up the very intestinal irritation which it was given to correct. In other cases it has developed the latent tendency to other diseases, such as Scrofula, Phthisis, Pulmonalis, etc. In adults we know this to be very often the case. How much more likely is all this to happen in the young infant.

4. In the use of mercury in young children, great care should be exercised in ascertaining, as far as possible, their constitutional peculiarities. This, of course, is not in all cases easily to be done. A good deal, however, may be learned from an acquaintance with the tendencies of the parents. Wherever the parents show indication of scrofula, or where there is an hereditary predisposition to consumption, great caution ought to be exercised in the use of mercury in their offspring.

5. Mercury should be administered with great caution, in cases where a child has been sick for a considerable length of time, and when the strength of the child has been very much reduced. In this state of constitutional depression, a single cathartic dose of

\* Transactions of the Medical and Physical Society of Calcutta, vol. 1, p. 211.

† Observations on the Nature and Cure of Dropsies. By John Blackall, M. D., p. 126.

‡ Manual of Midwifery. By Michael Ryan, M. D., p. 477.

calomel sometimes proves fatal. We think we have seen more than one case, which has been irretrievably prostrated under these circumstances, under the false impression that calomel is an innocent purgative to a child.

6. The too common practice of giving calomel as an ordinary purge, on all occasions, is certainly unjustifiable. From the facility with which it may be given, it is unquestionably resorted to in a great number of cases, where it is certainly unnecessary, and in a great number where it positively does harm. The misfortune is, that its use is not limited to an occasional dose, but it is too often given in every slight indisposition of the child. Now, in this way, there can be no question that the use of it has laid the foundation for the ruin of the constitutions of thousands. It ought to be a rule laid down and rigidly followed, that in very young children, mercury ought never to be used as a cathartic, unless there is a special reason for resorting to it. In a great majority of cases, milder cathartics are decidedly to be preferred.

In concluding these observations, I trust, it may not be supposed, that my intention has been to undervalue the importance of mercury as a remedy in the diseases of children. On the contrary, no one appreciates it more highly than myself. In many cases, nothing can supply its place, and its judicious use has been, and is, the instrument of saving multitudes of lives. Notwithstanding, however, the many cautions to the contrary, it is to be feared that its use is still too general and indiscriminate. Indeed, the amount of it which is taken by the human race in one way or other, is incalculable. What is given by regular physicians, is perhaps the smallest quantity. If the public really knew how much of this article is swallowed unknown to themselves, in the shape of bilious pills, worm lozenges, and the white powders of the Homœopaths, they would be amazed at their credulity in deserting their old medical advisers, because they have the boldness to give them an occasional dose, and the honesty to tell them so. —*N. Y. Analyst.*

#### DIAGNOSIS OF NEURALGIA AND NEURITIS.

Although in some cases the symptoms of these two affections of the nerve are so nearly similar, that it is difficult to distinguish at first sight the one from the other, the confusion will cease in general, if, instead of inquiring into the actual condition of the patient, our inquiries are directed to the prior history of the attack, its progress, and exciting cause. While, in fact, *neuralgia* is a very common affection, arising without appreciable cause, or from causes the most opposite in character, *neuritis* is a rare affection, and is determined by causes which are readily appreciated. In analyzing the best authenticated cases of neuritis, it will be found that, with the exception of some few cases, in which it followed parturition, neuritis has almost constantly been produced by physical lesions of the nerve,—such as wounds, punctures, contusions, ligature, compression by a tumour, &c.; in fact, neuritis is always, or nearly always, the result of mechanical injury, while neuralgia originates spontaneously, and depends upon a particular, and little understood, condition of the economy. But if it is sometimes possible and useful to establish this distinction in practice, especially in neuralgia and neuritis of recent date, it cannot be denied, that in a certain number of cases of chronic neuritis, the distinction becomes impossible; for although it has been ascertained that neuralgia of very old standing (thirty or forty years for example), may have preserved its original character throughout, and yet left no traces of disease after death, it happens in the majority of cases, that under the influence of the repetition of the paroxysms, the texture of the nerve eventually becomes altered to such a degree, as to render it quite impossible to decide whether the inflammation has been secondary, or has depended upon an original neuritis. These cases show the inutilty of attempting a diagnosis in the chronic forms of the affections.—*Gazette Médicale de Paris*, No. 40, 1846.

#### THE URINE IN ASCITES.

In ascites, dependent on lesion of the liver, the urine is always more or less deeply coloured; whilst in renal ascites, (Bright's disease or otherwise), the urine is white and colourless.—(*Rayer*.) This characteristic condition of urine in ascites was perfectly known to the Arabian physicians.—*Monthly Journal of Medical Science*, December, 1846.

## SURGERY.

### TREATMENT OF SPRAINS.

The means which Dr. Poullain and some other authorities recommended in lieu of leeching and cataplasms is the *immediate and continued application of cold* by immersing the part in water. The cure is not only prompt but complete, inasmuch as there is no remaining *engorgement* to lay the foundation of future mischief, and the patient is enabled to employ the joint as actively as heretofore. This would be a great point gained, even if the time consumed in the treatment were as great in the one plan as the other, which it is not. Many cases of its success are related in the paper, and although, of course, in the great majority of instances, the ankle is the joint affected, sprains of other joints may be treated in just the same manner, except that in those, such as the knee, in which immersion may be difficult, the application of wet compresses or irrigation may be sustained. The treatment, indeed, is not novel, for it was recommended by Boyer, and more recently by M. Begin.

"Of 90 patients whom I have treated by the aid of cold and resolutions, 23 were cured in 6 days, 10 in 8 days, 22 in 11 days, 28 in from 11 to 15 days, 4 in 20 to 25 days, and 3 at the end of a month. None of these persons have continued lame. Seven felt the effects of their accident for several months, without, however, being prevented attending to their duties, and becoming quite cured. \* \* \* \* \* If this mode of treatment has incurred blame at the hands of some surgeons, it is because it has not been sufficiently, promptly, and freely employed, and it is therefore necessary to lay down some rules upon this point.

"The immersion should be resorted to as soon after the accident as possible. Recourse may be had to it also three, four, five, six, or even 12 hours after, but then its sedative effect is less prompt and the cure more tedious. The foot should remain at least *two hours* in the bath, and oftentimes much longer. It may sometimes be left in for entire days; and as a general rule the part should not be removed until it becomes completely cooled, the water being renewed as often as it becomes warm. This prolongation is easily obtained, for, after the first hour or so (during which the pain is sometimes almost insupportable) the immersion becomes bearable, and the patient is himself very desirous for its continuance. Iced water does not possess any superior efficacy to that of a temperature of 37° or 39°, provided this be equally maintained. As soon as the limb is removed from the bath it must be surrounded by a roller previously moistened with Goulard water or camphorated spirit, some of which must afterwards be applied to it from time to time. So effectually are congestion and swelling in this way diminished, that the bandage usually becomes loose within 24 hours. It must be re-applied until all swelling and pain have disappeared, which is generally the case in from three to six days. The patient may now be allowed to walk, continuing however the use of a bandage for ten or twelve days.

"If 14, or even six or twelve, hours after the application of the wet bandage, pain still continues, or throbbing is felt by the patient it must be taken off, and the limb again immersed in the water for a longer period than at first, even for a whole day if requisite. This second immersion is sometimes unsuccessful, but fortunately it is very rarely required, as the first almost always suffices.

"If the sprain is several days old, the limb swollen and painful, while nothing has been done for it, a free local bleeding is a necessary preliminary, after which the bandage and cold lotions, or perhaps immersion itself, should at once be resorted to. These means are, however, now of far less service than when employed soon after the occurrence of the accident."

When the sprain has been badly treated the joint may become the seat of a chronic enlargement, which is dissipated with difficulty and only after the persevering use of compression. MM. Begin and Velpeau, indeed, employ this in the earliest stage of sprain as a powerful means of preventing inflammatory swelling. Dr. Poullain employs to this end a starched many-tailed bandage. Whatever means are used, the case is tedious and may also require the aid of stimulating liniments, or, if very obstinate, of the *douche* as employed at the mineral springs, and even this does not always dissipate the enlargement.—*Rev. of Poullain, in the Brit. & F. Rev.*, July, 1846.

## TREATMENT OF SLOUGHING ULCERS.

In a great majority of cases, the sloughing process had advanced far before the patients were received; in some, as formerly stated, bones were denuded, and tendons and ligaments destroyed. But in very few, even where the destruction was greatest, was treatment by incision omitted; and in those only where, from fever or flux, there was great constitutional debility. The amount of incision was regulated by the extent of disease in the tissues under and around the ulcer. In some instances, where it did not descend below the integuments, the ulcerative process being phagedemic rather than gangrenous, and the destruction neither very rapid, nor reaching under tissues, it was sufficient to relieve the more superficial vessels, and to substitute scarification for what is understood by incision. More frequently, however, it was necessary to use the knife freely, passing it through the skin, and into the underlying cellular structure. Whatever the proper depth might be, the scalpel was carried quickly from beyond the limit of surrounding disease to the ulcer, often through it. The distance between the incisions varied, but was generally less than a quarter of an inch; their direction was most frequently parallel in the line of the limb, occasionally radiated from a circle, clear of the affected integuments, to the ulcerated centre, according to the position of parts, and degree of vascular action. In many cases, it was necessary to repeat the practice; in some, frequently.

The effects of this mode of treatment were generally prompt and most satisfactory. The relief to pain and irritation was often immediate; and, although the remedy was a painful one, patients sought rather than shunned its repetition, upon the recurrence of bad symptoms; so unequivocal was the benefit derived from it.

Instead of sanious foetid discharges from the ulcer—its ashy, livid, or black surface, and abrupt margin—there was secretion of pus, separation of sloughing matter, and a crop of florid healthy granulations; the surrounding parts, which had been tumid, darkly inflamed, or oedematous, or having both conditions combined, became flaccid and shrunken, assuming the pale complexion of health. In no instance did the sloughing action extend to the incised surfaces, which either healed speedily by adhesion, or more slowly, but not less surely, by granulation.—*J. Wilson. Med. Notes on China.*

## TREATMENT OF FRACTURE.

Sir B. Brodie gives no sanction to the operation of cutting down on the broken ends of the bones, and sawing off a portion of each of them, for the purpose of procuring union, and supposes that no modern surgeon, having a moderate share of prudence, would undertake it. In reference to the introduction of the seton in these cases, he remarks, that the result of the practice in this country appears to be, that sometimes it is successful in the upper extremities, but that where it has been performed on the lower extremities, as far as he knows, it has only succeeded in a single instance. The operation is uncertain and the result tedious. Sir B. Brodie speaks favorably of the treatment by pressure proposed by Mr. Amesbury, and states that it succeeded perfectly in three cases which were attended with him. This success, in one of these at least, was not so complete as is represented, since it appears that there was so much yielding motion between the upper and lower portions of the fractured femur, "that it was plain that the union could be merely ligamentous." In this mode of treatment the pressure must be considerable, so as to cause some inconvenience to the patient, both from pain and from swelling of the limb below. But the inconvenience is only temporary.

"The principle of Mr. Amesbury's practice is simply that of keeping the ends of the bones in perfect repose, and at the same time applying pressure, particularly on the broken surfaces, so as to keep them in the closest possible contact with each other. Of course no general rule can be laid down as to the mode of attaining this object. In a case of transverse fracture, one kind of apparatus must be employed, in one of oblique fracture another, and in one of comminuted fracture a third. The apparatus will also differ accordingly as it is a fracture of the arm, the fore-arm, the leg, or the thigh. In a case of oblique fracture a very simple apparatus will do all that is required. Secure the limb by fastening it to a single rather broad wooden splint. Apply a pad of thick leather on each side of the fracture, and then a tourniquet, by which the two opposite surfaces of bone may be kept firmly squeezed against each other. By means of the tourniquet the pressure may easily be regulated, and increased or diminished as the

patient can bear it. The best kind of tourniquet is not the common one, known under the name of Petit's, but one which occupies a smaller space, invented by the late Mr. Savigny, and sold by Philip and Whicker in St James' street.

"I do not say, however, that this method always succeeds. I have tried in the case of the little boy whose case I have already mentioned (on whose leg I afterwards used the seton), and without advantage. There was another patient in this hospital on whom it was tried for a considerable time under Mr. Amesbury's observation, and no union was effected; and it appears that Mr. Amesbury met with some cases in his own private practice, in which he has adopted it, and no doubt done ample justice to it, but in which it has failed. Still it has proved a very successful method on the whole, and certainly very much more successful than any other."—*Sir B. Brodie.*

## INHALATION OF SULPHURIC ETHER VAPOUR.

*Proceedings of the Surgical Society of Ireland.*

Dr. Macdonnell said he proposed to bring under the notice of the society this evening a case illustrative of (what, no doubt, every one in the room had heard,) the use of inhalation of sulphuric ether vapour, as a means of producing insensibility under surgical operations. He supposed that at all events many gentlemen present had seen what had been published by him in the *Medical Press* regarding this case; he was, therefore, unwilling to detain the society with a lengthened statement of it now, his principal object at present being to elicit from the society an expression of their opinions respecting the cases to which this wonderful agent may be considered applicable—namely, the cases in which its use might be dangerous or improper, and the cases in which it is only to be resorted to occasionally. Lastly, and not least, he expected that there would proceed from this society—as the proper place for such a purpose—an expression of opinion, pronounced against the incautious use of this agent, either on the part of persons actually ignorant or of those but imperfectly acquainted with its properties. By an incautious use of it a serious injury to this agent would arise as well in public estimation as in that of the profession, and it was a power, he believed, that would prove of immense benefit to suffering humanity. Great discoveries have often been known to suffer materially from an improper application. On these grounds, therefore, he thought it right that the incautious use of the agent under consideration should be protested against, and the earlier the better. He would now state in a very few words the heads of the case, and the principal points that occurred both at the time of the operation and since.

A young countrywoman received a wound over the elbow-joint six or seven weeks ago, and after a fortnight (during which the case was greatly mismanaged) she came under Dr. Macdonnell's care. On examining the wound he had no doubt that the joint was involved, there being profuse discharge, ulceration, and a sinus through which a probe could be passed into the joint. Almost all the cartilage of the latter was found to have disappeared at the time of the operation; a portion of that which covered the cup of the radius and the olecranon process alone remained. Caries had extended through the whole of the rest of the joint, and separated a portion of the inferior extremity of the humerus from the shaft.

In spite of every endeavour to arrest the progress of the disease, hectic very soon set in, together with diarrhoea and bed-sores, the latter having been caused by the patient's inability to move from the dorsal position, the slightest attempt at motion being productive of excessive pain. Under this rapid sinking, it was unanimously decided to operate with the least possible delay. The use of the ethereal vapour had just been heard of in Dublin, so it was determined to try it here. Owing to slight imperfection in the apparatus there was at first some delay in bringing the patient under the influence of the vapour;

but on a second trial, complete insensibility was produced in from a minute and a half to a minute and three-fourths, and from this time we have the patient's positive assurance that she remained perfectly insensible up to a point of time, which, as nearly as might be, amounted to three minutes after the operation; that all this time, in fact, she felt nothing. One particular observation made by Dr. Hutton, and mentioned in the communication to the *Medical Press*, was the complete power possessed in managing the stump; it could be moved about in every direction while securing the arteries, which were in unusual number in this case. It was also remarked by Dr. Hutton that there was rather more blood than usual: as regards this observation, however, Dr. Macdonnell was not sure that much importance is to be attached to it, but under circumstances where every point is deserving of accurate note, it was worth recording. The patient suffered unusually little from aching of the wound, but complained slightly of it after her removal to bed. The notes of the pulse were published from Mr. Tyfnell's observations. Before the operation her pulse usually numbered 120 or 130, but it has since returned very near the natural standard; the pulse being now 100, or very little above it. He (Dr. Macdonnell) had never seen any case turn out more completely favourable; he now looked on the patient as perfectly safe; the only circumstance out of the ordinary course that had occurred was this—on the sixth day after the operation (Thursday) two ligatures fell, and one yesterday, the single one he believed was from the humeral artery; three ligatures still remain.

As his object was (Dr. Macdonnell said) to elicit opinions, he would trespass very little longer on the time of the society, but would merely state a few of the cases in which it occurred to him the employment of the ether would prove highly serviceable. In cases of tetanus and hydrophobia, if inhaled just before the approach of the fit, it might, he thought, turn out to be extremely useful. Again, where operations have to be performed on subjects in whom there is a marked deficiency of moral courage—a perfect effeminacy in fact—he had often observed even slight operations prove fatal under such circumstances. In one such instance he had known the man express his conviction, several days before the operation of amputation, that he would not recover, and in three days after he died without anything having occurred to account for the man's death except the shock upon the nervous system. Many of the gentlemen present had, no doubt, experienced similar results in persons of that highly impressible nature. In many cases of compound dislocation and fracture, it would also, he was sure, be of much service, as a means of allaying the strong spasmodic action of the muscles which so greatly interferes with reduction of the former and coaptation of the latter. How very fortunate, he would say, might not a knowledge of such a remedy have been on an occasion of late occurrence; he alluded to the case of dislocation of the hip which had excited so much sympathy amongst the profession and the public. In conclusion, Dr. Macdonnell suggested the necessity of using the ether with great caution in all cases where disease of the brain is at all suspected, or any apoplectic tendency. He again begged to remark that his great object was to ascertain the opinions of the society generally on this important subject. One or more of the gentlemen present would perhaps be willing to be experimented upon.

Mr. Ellis begged to ask a question or two respecting a couple of points which he supposed Dr. Macdonnell had unintentionally omitted to mention. First, with respect to the effects produced by the vapour; whether Dr. Macdonnell had observed anything like collapse before or after the operation performed by him; secondly, as to the effects experienced by Dr. Macdonnell himself, for having seen that gentleman's interesting letter in the *Press*, he (Mr. E.) was

aware of Dr. Macdonnell's having himself inhaled the vapour.

Dr. Macdonnell replied, that in the communication alluded to by Mr. Ellis, he had stated all he knew on both the points referred to by him; and being under the impression that almost all present were aware of the contents of that communication, he had purposely avoided occupying the attention of the society with a repetition. The first unusual sensation experienced by Dr. Macdonnell on the inhalation of the vapour, was a disagreeable feeling of heat referred to the centre of the chest—that is, to the larger bronchial tubes, together with a sensation of slight obstruction in them, accompanied with cough. These symptoms disappeared on the approach of insensibility, and the breathing became apparently easy; then for a few seconds a low humming sound was felt in the head, and in a few seconds more a total deprivation of sense ensued, as if from receiving a heavy blow on the head, but without the sensation of a blow being inflicted. Both in Dr. Macdonnell himself, and in every person on whom he operated, there was dilatation of the pupils, and it had been observed by his friend, Mr. Macdonnell, who assisted him, that in the beginning his pulse rose slightly, but fell again as insensibility became established, and was rather stronger than usual, his friend thought. It was observed by Mr. Tufnell, too, that the pulse varied very much at different periods of the operation subsequent to the production of insensibility. The only signs of collapse observed in Dr. Macdonnell himself, or in others, was a total loss of muscular power, complete inability of motion in the limbs. He believed the effects of the agent as just described were exactly in accordance with what occurred in a case in which Mr. Collis had on Wednesday last removed a toe-nail from a patient at the Meath Hospital, and in which the application of the ether was perfectly successful. The effects of the vapour have, Dr. Macdonnell thought, no similarity whatever to those of intoxication; he certainly felt nothing of the kind himself, neither did any one else, as far as he was aware. Immediately on recovering from the state of insensibility, too, which was in five or six seconds from the time of its being complete, he (Dr. Macdonnell) looked about and saw distinctly two objects on a table at a distance; there was, therefore, nothing of double vision or other sign of intoxication.

Mr. Tufnell next related the particulars of four cases in which he had tested the effects of the ethereal vapour. The first was that of a stout healthy dragoon, aged 25, who had an abscess, or, as it is commonly called, a gumboil, caused by a carious stump, in the removal of which considerable additional pain would of course be suffered in consequence of the abscess.

The vapour was inhaled gradually and slowly, and as soon as the brain began to be affected by it, the man showed signs of distress and dyspnoea. Owing to deficiency in the apparatus, the atmospheric air was not entirely excluded, so that at the end of six minutes insensibility was not complete; there was, however, loss of muscular power and other evidences of the action of the vapour, and this being the first experiment, Mr. Tufnell was unwilling to push it further. The tooth, however, was extracted without any manifestation of suffering, further than a slight effort on the part of the man, but he did not touch the hand of the operator. He soon after stood up and looked about vacantly. The condition of the pulse was not noted in this case, but the pupils were observed to be very slightly altered.

The subject of the second experiment was a man of a weakly leucophlegmatic temperament. Before a minute had elapsed there was slight spasm of the respiratory muscles and short cough, which, in a few seconds more, increased to such a degree that the points of the fingers shook from the violence of the inspiratory efforts. The head dropped on one side of the neck and the eyelids fell. In three

minutes this man was so completely insensible that a person entering the room would have supposed he was in a fainting fit, until the pulse were felt, which had risen three degrees above what they had been when the man was first seated for the purpose of experimenting. The respiration was normal too. He remained thus without any symptom of returning vigour for three minutes, and was now brought round by the application of a wet towel which caused evaporation. During this man's insensibility Mr. Tufnell took occasion to pinch him violently with a pair of forceps through his trowsers, and even ran the point of a pair of scissors several times into him, but failed to produce the slightest symptom of sensation.

The man first operated on was now summoned again, and the completeness of the experiment ensured by the substitution of a leather mouth-pipe through which the man could not possibly inspire unimpregnated atmospheric air. In two minutes and a half he was perfectly insensible, there being at first considerable dyspnoea, during which he made several efforts to raise his hand to the mouth-piece as if to remove it. He now appeared to lose all control over himself, snatched the instrument with which Mr. Tufnell was about to draw a second unsound tooth that lay next the former one. He rushed about the room, swearing and kicking violently; the tooth, however, by a little management was removed, and in two or three minutes the man recovered his usual condition, perfectly unconscious of the removal of the tooth. On questioning him as to his sensations while under the influence of the vapour, he stated that he fancied himself seated in a room with four persons whom he had never seen before, and altogether he appeared to have felt agreeably. The veins of his neck were observed to be turgid and distended.

The subject of the fourth experiment was another stout healthy dragoon, very short necked, but as he was apparently a temperate man, Mr. Tufnell saw nothing to contra-indicate a trial of the vapour upon him. He coughed violently till under the influence of the agent, the effects of which are quite perfect at the expiration of two and a half minutes. The head, as in the second case, fell on one side, and there was slight lividity of the countenance, which Mr. Tufnell said he had not observed in the others. This man immediately after became very violent also, he jumped up from the chair, declaring that nobody should take him to the guard-room, and kicked about, just as a man would do if drunk. After wandering about the room for a little time, he gradually recovered in two minutes.

In all these cases the countenance wore a partially idiotic expression during the transaction from insensibility to complete recovery, and this man, like the last, was under the impression that he was amongst numbers; he fancied himself dancing in a public-house with many others. The latter sensation, Mr. Tufnell suggested, might be conveyed to the brain as the last impression which the person, just becoming completely insensible, was capable of receiving from seeing a number of persons about him. This point, however, as also the fact of the outward expression of pain, while the subjects of the experiment declared their sensations to be extremely pleasurable, Mr. Tufnell found some difficulty in reconciling to himself. Mr. Tufnell was not able to note the character of the pulse in any case but one.

Dr. Macdonnell would be glad to have Dr. Jacob's opinion respecting the applicability of this agent in some of the delicate operations on the eye. It struck him (Dr. Macdonnell) that in many of these the vapour might be employed with great advantage.

Dr. Jacob said that he felt some doubt as to the applicability of the plan in operations of the eye generally. In that which he was most frequently called on to perform, there was really little or no pain unless the iris was touched or pressed upon, and he feared that the insensibility and

consequent loss of support to the head might cause embarrassment. In the operation for extraction, he would have much dread in placing the patient under its influence, lest in any violent efforts which might be made by a person in a semi-conscious condition, the vitreous humour might be expelled. In operations for artificial pupil it might most probably be resorted to with benefit, and in operations for strabismus, more than all others, he thought its application might be found useful. In extirpating the globe on account of malignant disease, or removing orbital tumours, it might also be resorted to with great advantage and relief from excruciating agony.

Mr. L'Estrange might be permitted, he hoped, to add his testimony respecting the properties of the agent under consideration. He had seen the operation at the Meath Hospital referred to by Dr. Macdonnell, in which the matrix of the toe-nail was excised, and in this instance there was complete absence of suffering, together with collapse of the muscular energy already alluded to. The next case was that of a lady brought to his (Mr. L'Estrange's) house for the purpose of having a tooth extracted that she had been for a long time trying to summon courage enough to submit to. It was at first found very difficult to put her under the influence of the vapour, and upon a second trial it was only after eight minutes that its effects were manifest. Her condition then was not that of collapse, but rather resembled the state alluded to by Mr. Tufnell in one of his cases. She was conscious of what was going forward; at one period she heaved twice heavily, and it was just then that the tooth was removed without the lady having suffered the slightest pain, so much so that she insisted on having a second tooth extracted. She described her sensations to have been as if travelling on a railroad.

Dr. Hargrave inquired whether Dr. Macdonnell had noticed any alteration in the character of the blood that flowed from the stump in his case?

Dr. Macdonnell replied, that there was certainly no remarkable difference from what is usually observed. The arteries at least could readily be distinguished by the colour of their blood, though it could hardly be said that the blood flowing from them was of so bright a scarlet as is usual.

Dr. Hargrave continued to say, that as cases in which this agent ought not to be tried, he would suggest instances where persons had suffered from severe accidents, and had just recovered from the state of collapse consequent on such accidents. Here an operation may be immediately necessary, and the propriety of employing the vapour under such circumstances, was, he thought, very questionable. He might take this opportunity of mentioning the case of a young girl of sixteen or eighteen, who came under his observation some years ago, and on whom ether had a very remarkable effect. After an illness of some length, she was seized with spasmodic attacks of a violent tetanic character for which there was no assignable cause. Before the tetanic spasm set in, she suffered from the most violent spasm of the larynx, almost threatening suffocation. Dr. Cheyne saw this case, and ordered a caustic issue on the vertex of the head, and to have the patient go to the country. Happening on one occasion, at the approach of a fit, to observe some other by her bedside, I placed a little of it in the palm of my hand, which she inhaled, with the immediate effect of arresting the laryngeal spasm, and the tetanic spasm. For a week or ten days she used this remedy with much benefit, and then went to the country, where, after a lapse of six or seven months, she completely recovered, but has ever since been subject to occasional attacks of a peculiar nervous affection. Now, with respect to the applicability of the ether in military surgery, Mr. Tufnell might afford the society some satisfactory information. He (Dr. Hargrave) believed that the necessity of taking advantage of recovery from the shock or collapse attendant



on severe wounds, was particularly dwelt on by most writers on military surgery. In such cases, then, as also where cardiac disease exists, and in very old persons, he was inclined to think the inhalation of the vapour might be attended with unpleasant effects. At all events, before inhalation were resorted to for the purpose of an operation, he would say that the effect of the vapour on the individual ought to be carefully ascertained. Mr. Orr would detail to the society a case in which he that morning made a preliminary trial of the vapour, and which was attended with circumstances that completely marred the efficacy of the remedy in his hands.

Mr. Orr said, that being anxious for an occasion to test the properties of this new agent, he took advantage of an opportunity afforded him in the person of a patient affected with lipoma of the testicle, on whom he wanted to perform Mr. Syme's operation. He had purposely avoided saying anything to the patient on the subject until that morning, and he then objected to it, said he felt a disposition to faintness, &c. After a little reasoning, however, he was induced to submit, and when the apparatus was applied, the mouth-piece was found to fit badly from a disproportion between it and the mouth of the patient. But with some management he was forced to inspire the vapour, Dr. Hargrave having his finger on the pulse, while Dr. Williams took notes of it. In a few moments the man started up, and asked in a wild manner what they were about to do with him? After two or three attempts it was found impossible to produce the degree of insensibility ascribed to the vapour, perhaps (Mr. Orr said) on account of its being involuntarily regurgitated by the man, and his partially respiring unimpregnated atmospheric air. At the conclusion, he stated that he had felt as if in an agreeable dream, but was far from being entirely unconscious, for he felt, he said, a disagreeable sensation on being pinched, which was done each time a renewal of the attempt was made. The pulse varied considerably during the experiment; it was exceedingly weak just before the inhalation was commenced, and rose again both in frequency and force when the man appeared most under its influence. He expressed his willingness to submit to another trial of the vapour, but Mr. Orr feared his being rather too much excited just then for a repetition of the experiment.

Dr. H. Kennedy observed that, from the remarks made to-night, it would appear the effects of this agent were not peculiar to it. He had seen very nearly identical effects produced by the nitrous oxide, or laughing gas, which, it was not generally known, perhaps, produce in some constitutions that semi-comatose or apoplectic state described to-night, in which the individual is entirely deprived of the power of motion, but not of all consciousness. He had seen instances of this kind, while in others, which were certainly in the majority, a state of the most violent excitement was induced by the use of the gas. Dr. Macdonnell had properly spoken against the use of the ether in cases marked by any tendency of blood to the head; to these it might be prudent to add, cases where there was anything like disease of the heart, or delicate lungs. The great difference existing between persons in rude health—such as were chiefly the subjects of Mr. Tufnell's experiments—and those likely to have to undergo operations, should not be forgotten either. As a whole, and speaking of surgical cases only, he could not help feeling that the case suited for the use of this agent would prove to be the exception, and not the rule.

Mr. Carmichael said that, notwithstanding the objections urged by previous speakers against the agent under consideration, he looked upon it as a most valuable boon to society at large, offering as it did so powerful a means of alleviating pain. He had closely watched the woman whose case had been detailed by Dr. Macdonnell, and had

observed that soon after her woman's countenance fell, at donnell commenced the operation being divided (which is admitted part of the operation,) the woman betray the slightest evidence of pain, when all was over, whether she had of the bone, she said she had no set whatever. The objections made to this agent, Mr. Carmichael said, might be urged against opium and the many alleviating pain. He had that day seen the public papers a paragraph attributing the suggestion of this highly valuable aid in surgery to M. Ducros, who, it was stated, had introduced the subject to the notice of the Academy of Sciences at Paris in March last. Now, in a society, and more particularly one so numerous as the present, he (Mr. Carmichael) considered that merit should, if possible, be awarded to the individual possessing the clearest title to it; and as the author of the paragraph alluded to was, perhaps, now present, he might in furtherance of his statement, give to the society additional details on the subject. It had been stated at the same time by M. Ducros, that opium acted as an antidote, or a means of recovering the person from the state of stupor induced by the vapour. This (Mr. Carmichael said) reminded him of the homœopathic doctrine—*Similia similibus curantur*. He did not know whether in protracted operations this remedy would be applicable, or whether its renewal might be attended with safety.

Dr. Power, having been present at Dr. Macdonnell's operation, wished to mention one or two circumstances connected with the patient and the operation that had struck him at the time. It was after a second attempt, as the society were aware, that the woman was brought fully under the influence of the vapour, and then Dr. Power observed great difficulty of respiration, complete alteration in the expression of her countenance, and great turgescence of the vessels. As to the fact of her not having felt pain, he felt perfectly convinced that she did not suffer the slightest; he might as well have held the arm of the dead subject, so little evidence was there of any sensation under the knife. These facts had struck him most forcibly. As to the applicability of the remedy to protracted operations, he could not now pretend to say anything; or as to the amount of improvement of which the agent may yet be susceptible, so as to render it available under such circumstances.

Dr. Eades made some observations tending to establish an identity of effect between the ethereal vapour and protoxide of nitrogen, or laughing gas, and showing that both these agents equally exhibited alternately exciting or depressing influences, according to the variety in constitutions of the individuals experimented on. Ether, he also observed, had been a remedy in use long and long ago in cases of chronic catarrh and other affections of the respiratory system, and the rationale of its exhibition appeared to be quite in accordance with the homœopathic doctrine. The stupefaction produced by the vapour appeared to be clearly referable to its action on the nervous system.

Mr. Jameson mentioned the case of a boy of 17 or 18, under his care in Mercer's Hospital, for some affection of the eyes, on whom he had tried the effect of the vapour two or three times, but with an imperfect apparatus at first, so that stupefaction was not induced; but the boy always declared that he could see better after its use. One or two mornings ago Mr. Jameson so far induced stupefaction as to render the boy entirely insensible to pain, but consciousness was present to such an amount that he answered any question put to him. His pupils were dilated, the conjunctiva considerably suffused, the symptoms being altogether little



short of apoplectic. Mr. Jameson meant to test the properties of this agent more fully in a day or two in a case for amputation; at the same time it was a remedy which ought to be used, he thought, with some caution. While the boy above alluded to was under its influence, there was each time an irresistible fit of crying, the tears ran down the cheeks. He had subsequently no recollection of what had occurred further than that the sensation had been a pleasurable one, and that the hearing was obstructed.

Mr. Cusack said it was by experience alone that we could hope to arrive at any definite results on this interesting subject; he would therefore only detain the society for a moment or two while he added the little that he himself had as yet any opportunity of ascertaining respecting it. A strong healthy peasant girl was brought to Steevens' Hospital, into whose foot a needle had passed some time before through the ball of the great toe along the sole of the foot. Notwithstanding the extensive use of the knife required here, amongst structures, too, so abundantly supplied with nerves, this girl, placed under the influence of the vapour, never winced or expressed the slightest sensation of pain. He might (Mr. Cusack said) as well have cut a piece of board, so complete was the insensibility. Mr. Cusack observed the blood to be of a very dark colour, and the muscles very flaccid; the dark colour of the blood, it was possible, he said, might have been partly owing to his having cut across a vein while incising the muscles.—*Dublin Medical Press.*

#### OBSERVATIONS ON THE EMPLOYMENT OF COMPRESSION IN ANEURISM.

By O'BRYEN BELLINGHAM, M.D., F.R.C.S.I., one of the Medical Officers of St. Vincent's Hospital.

*Advantages of compression over the ligature—Compression effects the cure of aneurism by simpler and safer means than the ligature; this method of treatment more certain and more permanent than that by the operation—Cause of the return of pulsation in an aneurism subsequent to the operation—Objections to the treatment of aneurism by compression answered—Concluding remarks—Summary.*

Notwithstanding that the amount of evidence which has been adduced in favour of the treatment of aneurism by compression is perhaps greater than has ever been brought forward within so short a period in support of a novel method of treatment, the cases in which it has been employed, forming, I may say, one unbroken chain of successful results: yet surgeons who have not seen it used, or who are accustomed to rely solely upon the ligature, may be slow in adopting what they may still look upon as an innovation. I shall therefore now endeavour to point out the advantages which this method of treating aneurism has over the ligature; and by instituting some kind of comparison between them, endeavour to do away with the objections which have or may be urged against compression.

It will, I believe, be admitted, that an aneurism once formed, has a constant tendency to increase in size; that, as it enlarges, the parietes of the sac become thinned (more particularly if its progress has been rapid); and that these effects are due to the distending force of the blood exercised upon the interior of the sac. Now, if the latter can be taken off, the enlargement of the aneurismal sac would necessarily be put a stop to, before it had attained any considerable size; and its parietes would thus be prevented from becoming thinned. The first effect, then, of pressure upon the artery between the aneurism and the heart, is to diminish or take off the distending force of the blood, the tumour is immediately reduced in size, and becomes more or less flaccid; the distension from pressure to which the parts about it had been subjected being thus removed, the pain which many patients labouring under aneurism suffer from in the affected limb is relieved. When the aneurismal sac has thus been kept stationary for some time, although no other change should take place, its parietes will be strengthened rather than thinned; and the danger of rupture of the sac will be greatly diminished. Indeed many of the cases on record, where a circumscribed aneu-

rism became diffused, necessitating amputation of the limb, would probably have been saved by the timely application of compression to the artery between the aneurism and the heart. However, we know that the same measure which takes off the distending force of the blood from the interior of the sac, and which checks its further increase, will at the same time bring about other changes in the sac itself, which will not only prevent it from enlarging, but will, if persevered in, effect the cure of the disease.

That compression effects the cure of aneurism by more simple and safer means than the ligature—that the treatment also is more certain—and that the result is likely to be more permanent than when the ligature is employed—I shall now endeavour to prove.

That compression effects the cure of aneurism by more simple means than the ligature is evidenced by the facts—1st. That the mode in which the consolidation of the aneurism is brought about by compression is exactly the same as that in which a natural or spontaneous cure occurs; and 2dly, because when a cure is effected by compression, the vessel is obliterated merely at the site of the aneurism; whereas when a ligature is applied in the usual situation at some distance from the tumour, the artery is obliterated both at the seat of the ligature and at the seat of the aneurism. Hence it is easy to understand why, when secondary hæmorrhage followed the operation, the application of a second ligature higher up so seldom succeeded; and we can hardly be surprised at gangrene attacking a limb, the main artery of which is obliterated at three different points.

That compression effects the cure of aneurism by safer means than the ligature is also evident, because its employment can be intermitted and resumed according to circumstances; and because no ill consequences have hitherto resulted from its use. On the other hand, the ligature of a large artery is always a precarious operation; when it is once applied, we must await its separation before the patient can be considered out of danger; and when it fails, which frequently happens, the case almost always terminates unfavourably, not from the increase of the disease, but from the operation performed for its relief. The artery in which aneurism (after the aorta) is most frequent, is the popliteal, and the ligature of the femoral artery for popliteal aneurism is more frequently unsuccessful than that of any other artery of equal size. Mr. Benjamin Phillips collected fifty-nine cases from various sources in which this vessel had been tied, in thirty-nine of which it failed; and although (as Mr. Storks observes) the accuracy of these statistics may be denied, "yet every surgeon must allow that the deligation of a main artery for aneurism is an operation (notwithstanding the successful results some practitioners can boast of) attended with great risk." On the other hand, I have given a list of twenty-seven cases of aneurism treated by compression of the femoral artery, in twenty-five of which it succeeded perfectly; of the other two, one died of erysipelas before the cure was completed; the other was operated on at the patient's urgent request, and recovered. A mode of treatment therefore which is exempt from all risk has many advantages on the score of humanity, which alone ought to constitute a strong argument in its favour.

The treatment of aneurism by compression is more certain than that by the ligature. We have already seen that the operation by ligature, however carefully performed, is a precarious one, and that it frequently fails; that secondary hæmorrhage from ulceration of the artery at the site of the ligature or phlebitis not unfrequently follow it; or that suppuration of the sac, hæmorrhage from it, or gangrene of the extremity, may ensue. Now, none of these unfortunate results have ever attended the treatment by compression, nor are any of them ever likely to follow it; because, in the first place, no injury whatever is inflicted upon either the artery or vein at the site of the pressure; and secondly, because the aneurismal sac, and the part of the artery from which it springs, are gradually filled up by fibrine, separated from the blood and deposited in the same way as when nature cures internal aneurism.

That a cure effected by compression is more likely to be permanent than when the ligature has been used, and that pulsation cannot return after the employment of compression, as sometimes has happened after the operation, might be inferred from the manner in which the cessation of pulsation is brought about; and it is proved by the pathological facts already adduced. In one instance, where the patient had been under treatment by compression, but died previous to the cessation of pulsation in the

aneurism, the sac was found to be in a great measure filled up by fibrine, deposited in concentric laminae. In another, whether the patient had laboured under popliteal and femoral aneurism in opposite limbs, and died some time after their cure by compression, the subsequent changes were shown; the contents of the sac had been absorbed, and the artery at the seat of the aneurism was converted into an impervious ligamentous band, proving that the cure had been permanent, and that it was physically impossible for an aneurism again to form at the part. A cure effected by the ligature can only be permanent when it causes the aneurismal sac to be filled up, and the artery to be obliterated at its seat, after the same manner as compression. If a loose coagulum of blood merely forms in the sac as the result of the ligature, there is danger either of the sac suppurating (for the reasons already mentioned), or a secondary aneurism may form at the part; neither of which have ever occurred after the treatment by compression.

When pulsation returned in an aneurism shortly after the operation, it was always a source of considerable anxiety to the surgeon; but if the principle upon which aneurism is cured had been understood, it need not have occasioned any; it merely indicated that a rather stronger current than usual passed through the sac, and that the process by which it was to be filled up was proceeding. When pulsation returned long after a supposed cure by operation; in other words, when a second aneurism formed at the part, it was naturally looked upon as a much more serious matter, indicating that the operation had failed; and amputation of the limb was supposed to be the sole resource. But if again the theory upon which aneurism is cured had been understood, surgeons would have known that the formation of a secondary aneurism indicated that the sac had not been obliterated by the ligature, that nature had now set up the process by which this would be accomplished, and that a little assistance from art only was required to secure its permanency.

In addition, there are some other circumstances which tend to confirm what has been already said respecting the advantages of compression over the ligature. For instance, aneurism not unfrequently occurs in individuals in whom the coats of the artery leading to the sac are so much diseased, that the vessel, instead of taking on the adhesive inflammation after the application of the ligature, ulcerates, or the ligature cuts its way through, giving rise to secondary hæmorrhage. The disease is also not uncommon in individuals labouring under valvular or other disease of the heart, in subjects of intemperate habits, or broken down constitution, or in cases of the aneurismal diathesis, and where more than one aneurism exists at the same time; cases in which the ligature is contra-indicated, and where the surgeon with great reluctance, would perform any operation; whereas pressure may be applied under these circumstances with nearly the same prospect of success as where the patient is perfectly healthy.

Again, aneurism occasionally occurs in individuals who have so much horror of a surgical operation that they cannot be induced to consent, although made aware of its absolute necessity and of the risk of delay. Such persons will gladly embrace any means by which they may be relieved from the necessity of undergoing an operation, and will cheerfully submit to any method of treatment which promises a chance of cure without it. Now, as the treatment of aneurism by compression involves no operation, patients labouring under this disease will probably make application at an earlier period, and for this reason will come under treatment at a more favourable period for effecting the cure than heretofore.

It will now be necessary to notice some of the objections which have or may be urged against compression as a mode of treating aneurism.

In the first place, it has been urged as an objection to this method of treatment, that the arteries are few in number to which it is applicable. But what is really the fact? The artery, above all others, in which aneurism is most common (after the aorta) is the popliteal, and next in frequency are the femoral and brachial. Lisfranc has given a table of one hundred and seventy-nine cases of aneurism, exclusive of those of the aorta, collected from various sources, out of which number the popliteal artery was engaged in fifty-nine instances, while the carotid was engaged only seventeen times, the subclavian sixteen, and the external iliac but five times. But even this is probably much below the average, because few cases comparatively of popliteal aneurism have been recorded (owing to its frequency) unless there happened to have been some peculiarity in the case; whereas most of the operations upon the carotid, subclavian, and iliac arteries, have been

published. It must be recollected, also, that aneurism of the subclavian, carotid, or iliac arteries near their origin, which do not admit of the application of compression, do not admit either of the employment of the ligature. It surely, therefore, is no argument against this method of treating aneurism that, because the disease occurs in arteries beyond its reach, we should refuse to apply it to vessels which admit of its application, or that the practice should be undervalued or condemned, because it cannot be used in every case.

It has been also urged as an objection to this method of treating aneurism, that it is more tedious and more painful than that by the ligature. Undoubtedly the treatment of aneurism by compression is often tedious, but that it is occasionally less so than the ligature, several of the cases already noticed prove, the pulsation having ceased after it had been employed for a few days only; while in the cases in which it proved very tedious, some of the causes previously enumerated may have operated to retard the cure. As to compression being a more painful method than the operation of applying a ligature to a large artery, including the subsequent dressings, until the wound is healed, this might be a question if the chances of recovery were equal in both, or if compression was employed upon the old theory of endeavouring to obliterate the artery at the site of the pressure; but we have already seen that compression not unfrequently actually relieves the severe pain from which the patient suffers in the affected limb; and that when it has been carefully graduated at first, tolerance of the remedy becomes established, and the patient is then able to maintain it for a longer period and with less inconvenience than under other circumstances.

I am far, however, from denying that compression as employed now, is not painful; indeed, some patients may find it so irksome as to refuse to continue it, or to call for the operation, the pain of which they suppose will be only momentary, and of the danger of which they are ignorant. But there is a great difference in this respect in different individuals, sometimes owing to the difference of sensibility to pain in different subjects, sometimes to a greater degree of pressure being required in one case than another. For instance, a moderate amount of pressure will diminish materially the current of blood in the artery in one subject, while a much stronger pressure will be required in another. This sometimes evidently depends upon the condition of the limb, more particularly the degree of development of the muscles, or the amount of superficial fat: a slighter degree of pressure will obviously be necessary when the limb is thin, and the muscles are poorly developed, than when this part is very muscular or much loaded with fat. Again, the condition of the heart and of the arterial system must likewise have some influence; thus, if the patient is plethoric, if the arteries are distended, or if the heart is hypertrophied, a greater degree of pressure necessarily will be required than under opposite circumstances. It is in such cases that venesection, by diminishing the tension of the arteries, and reducing the amount of blood, will generally be found serviceable; a less degree of pressure will be then required, less inconvenience will be experienced by the patient, and the pressure can be maintained for a longer period.

That there is a great difference in the sensibility to pain in different individuals has long been familiar to surgeons, and is frequently witnessed in operations; consequently some patients will be found who will maintain strong pressure for a long time without a murmur, while others will soon begin to complain, although the degree of pressure may be very moderate.

It is not, however, by contrasting the amount of pain experienced in these two opposite modes of treatment that we are to judge of their comparative merits. Admitting that, on the whole, the actual pain experienced is greater in the treatment by compression, when we contrast its perfect safety, its almost absolute certainty, with the risk and uncertainty which attend the operation, the advantages preponderate greatly in favour of compression. This appears to be the correct view to take of the question; and I am convinced that no medical man who had witnessed the treatment of aneurism by compression, and who likewise had experience of the ligature, would think of employing in his own person any other method; but would consider himself fortunate, if he could be relieved of so formidable a disease, by submitting to a greater degree of pain even than compression upon the artery occasions.

It has been objected to this method of treating aneurism that the pulsation is more likely to return than when the ligature has

been employed, owing to the artery not being obliterated at the point at which the pressure is made; consequently, that the patient cannot be considered safe from a relapse for a considerable time; while the period which has elapsed is too short to allow us to conclude that the cures which have been effected will be permanent. In reference to these objections, I shall merely observe, that the description, previously given, of the appearances found on a post-mortem examination of subjects who had been submitted to this method of treatment, proves that from the manner in which a cure is brought about, it must be permanent; and I may add, that in every case in which compression has been successfully used hitherto, the patient has remained well subsequently.

The foregoing are the principal objections which have been urged within the last few years against this method of treating aneurism; but they all admit of being readily answered. There are, however, one or two circumstances to which I may here allude which probably have had as much influence in retarding its general employment, although they have not been ostensibly put forward as objections. Thus, it is difficult to do away with the prejudices of early education; surgeons have been taught, and have been in the habit of teaching for years, that the ligature is our sole resource in aneurism; besides they have so often witnessed the sudden and complete cessation of pulsation in the tumour on the ligature being tightened, that they cannot bring themselves to believe the disease can be cured in any other way. Again, in the treatment of aneurism by compression, the *éclat* to be gained by the successful performance of a capital operation is wanting; while this method of treatment imposes a far greater amount of trouble on the surgeon than the ligature.

Having now enumerated the advantages which compression possesses over the ligature, and having replied to the objections which have or might be urged against this method, I wish it to be understood that I do not advocate it as being free from inconvenience, free from trouble, or free from pain; the process by which compression effects the cure of aneurism is necessarily gradual, and requires time to be accomplished, and the surgeon, if he expects to succeed, must make up his mind to exercise a degree of patience which may be seldom called for in other cases; on the part of the patient likewise a considerable share of forbearance will be necessary; the former must be prepared to witness his exertions thwarted, and his endeavours fruitless for a long time; while the latter must be content to submit to confinement to bed for perhaps many consecutive weeks, and to the additional inconvenience of wearing a compressing apparatus during the greater part of that time. Although this is taking rather an unfavourable view of this method of treatment, and although in many of the cases which have been detailed, the cure was accomplished within a comparatively short period, yet it would be misleading those who have not seen this method employed, or who are about to try it for the first time, to let them suppose that it has no drawbacks; and that it does not occasionally prove both tedious and painful. Compression, however, possesses this advantage over the ligature, that if persevered in, it cannot fail of effecting a cure; the cure may be impeded or protracted owing to a variety of causes, but from the manner in which the aneurismal sac becomes filled up, it is evident that every day will contribute a little, and every hour the pressure is applied something will be gained; and no matter how long the treatment may last, if the patient and surgeon have sufficient perseverance, a permanent cure will ultimately be accomplished, while the employment of the pressure does not involve the slightest risk.

Having brought these remarks upon the treatment of aneurism by compression to a close, I shall conclude with a summary of some of the most material points bearing upon this method of treatment:—

1. The arteries to which compression is applicable being far more frequently the subject of aneurism than those to which it is inapplicable, compression is calculated to supersede the ligature in the great majority of cases.

2. The cure of aneurism by compression upon the artery between the aneurismal sac and the heart, according to the rules laid down here, is accomplished by the gradual deposition of the fibrine of the blood in the sac, until both the latter and the artery at the part are completely filled. The process is in fact exactly similar to that by which nature effects a spontaneous cure of aneurism.

3. Such an amount of pressure as would cause inflammation and adhesion between the opposite sides of the artery at the point compressed is never required.

4. The pressure should not be so great as to interrupt the circulation in the artery at the point compressed; an essential agent in the cure being that a current of blood should pass through the sac.

5. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument, and in many instances the pressure can be maintained by the patient himself.

6. The treatment of aneurism by compression does not involve the slightest risk to the patient, and if persevered in cannot fail of effecting a cure.

7. A cure of aneurism effected by compression, according to the rules laid down here, must necessarily be permanent; and in every case in which a cure has been accomplished, the patients have remained well subsequently.

8. The femoral artery remains pervious after the cure at the point at which the pressure had been applied, and no morbid change of any kind is to be detected in either the artery or vein at the site of the compression.

9. When a cure is effected by compression, the vessel is obliterated only at the seat of the aneurism, and the artery at this part is eventually converted into an impervious ligamentous band.

10. Compression effects the cure of aneurism by more simple and safer means than the ligature, while it is applicable to a number of cases in which the operation is contra-indicated or inadmissible.

11. Compression is not necessarily a more tedious or more painful method of treating aneurism than the ligature, while it is much more certain, more likely to be permanent, and is free from all danger.

12. Compression, according to the rules laid down here, has little analogy with the old method which went by this name; and in fact has no greater resemblance to it than the Hunterian operation had to the operation for aneurism which it superseded.—*Dublin Medical Press.*

## MIDWIFERY.

### UTERINE POLYPI AND ULCERATION.

Dr. Montgomery has published in the August No. of the *Dublin Quarterly Journal of Medical Science*, a very valuable paper on *Uterine Polypi and Ulceration, with cases*. Dr. M. deduces the following conclusions, as the results of his extensive observation on this class of diseases.

1. That small uterine polypi, or polypoid excrescences, are of frequent occurrence.

2. That they are often not discoverable by touch alone, and so escape notice.

3. That they may even elude detection with the speculum, especially if the instrument used is not capable of separating the lips of the os uteri.

4. That they are a common cause of ulceration and menorrhagia, one or both; the cure of which requires, as a preliminary step, the removal of the polypus.

5. That while, on the one hand, a small polypus may escape detection, there is, on the other hand, a peculiar condition of the anterior lip of the os uteri liable to be mistaken for a polypus, and requiring a long time for its removal.

6. That very small polypi of the os uteri, when occurring in women of advanced age, especially if they are of the vesicular kind, are often the precursors of a malignant form of uterine disease.

7. That polypus being very frequently accompanied by ulceration of the os and cervix uteri, and its concomitant pain and structural alteration, the symptoms are occasionally mistaken for those of cancer; which error is most likely to be committed if an examination should happen to be made just when a polypus of rather large size is passing through, but still engaged in, and distending the os uteri.

8. That in cases of larger sized polypi, ligature is the means most generally eligible, as being safer than excision, though not so expeditious; its application having, in general, the immediate

effects of restraining the morbid discharges, and alleviating other symptoms, and ultimately curing the disease.\*

9. That polypi and polypoid excrescences of small size are best removed by *torsion*; or in some instances, their destruction may be conveniently effected by *caustic*.

10. That with large polypi, torsion is unsafe, and should not be attempted.

11. That even with a polypus of small bulk, and slender pedicle, excision is not free from the risk of troublesome hemorrhage, while with those of larger size, there is great reason to apprehend such an occurrence taking place to a very dangerous degree, even though the precaution may have been taken of firmly constricting the pedicle with a ligature previous to its division.

12. That in ordinary cases of benign polypus, when no other disease exists in the uterus, the removal of the tumor by ligature, or other suitable means, is, in the vast majority of cases, completely successful, even under circumstances apparently quite hopeless.

13. That in malignant growths, such as cauliflower excrescence, removal by ligature will sometimes effect a complete cure, and that where the success is not so decided, much good may be done by the operation.

14. That the situation from which a polypus springs makes a considerable difference in the symptoms which it produces; a polypus of the lip of the os uteri giving rise to lower symptoms and much less discharge, than one of very inferior size growing from any part within the os uteri.

15. That a polypus of only moderate size, growing from the lip of the os uteri, is not likely to interfere injuriously with gestation or delivery, and its removal may be effected by, and as consequence of, the pressure which it sustains during the expulsion of the child.

16. That if a polypus, already detached, be too large to pass readily out of the vagina, it ought not to be allowed to remain there; but should be removed with the least possible delay, as its putrefaction may be attended with very unpleasant consequences.

17. That a fibrous tumor, originally formed in the substance of the uterus, may thence descend, pass through the os uteri, and form an ordinary pediculated polypus in the vagina.

18. That in the unimpregnated state of the uterus, this change will be effected gradually, and in general very slowly; but that should pregnancy occur, the descent and expulsion of the tumor may take place quickly under the expulsive action of labor.

19. That a polypus, even of large size, may thus make its appearance for the first time, immediately after delivery, no suspicions having been previously entertained of its existence.

20. That the cure of long-standing polypus, with large discharges, is liable to be followed by a condition of the system requiring precautions against determinations to the head.—*Dublin Quar. Jour., Aug.*

## MISCELLANEOUS.

### LE VERRIER'S PLANET.

In our last number (vol. 2, p. 439) was announced the discovery of the planet beyond Uranus, in accordance with the predictions of Le Verrier. This discovery must be considered one of the most remarkable recorded in the annals of science, and elevates Le Verrier to the first rank among astronomers. Of its history, we have room at present only for the following brief sketch.

Omitting to cite various notices which indicate that for several years past there has been among astronomers a growing suspicion of the existence of some unknown body in our system, by which the motions of Uranus is disturbed, we may quote the following as one evidence:

In the *Comptes Rendus Acad. Sci.*, (Session Sept. 1. 1845,) xxi, 524, is an extract from the preface to *New Tables of Uranus*, by Eugene Bouvard, communicated to the Academy, in which, after speaking of the impracticability of reconciling, by any existing theory, the computed and the observed places of this planet, he adds: "the discordances between the observations and the theory induce me to believe that there is much probability in the idea

proposed by my uncle, (Alexis Bouvard, whose tables of Uranus, &c., were printed in 1821,) as to the existence of another planet, disturbing Uranus. This opinion, moreover, is further strengthened by the analogy which appears in the periodicity of these discordances, and those which Saturn would present if we should suppose Uranus unknown."

At the session of Nov. 10, 1845, (Comp. Ren., xxi, 1050,) Mons. U. J. LE VERRIER presented his *First Memoir on the Theory of Uranus*. Having alluded to the discrepancies between the observed and computed places, he says, "in the course of the last year, M. Arago represented to me that the importance of this question made it the duty of every astronomer to do his best to clear it up. I abandoned at once, in order to investigate Uranus, the researches on comets which I had undertaken, and of which several portions have already been communicated. Such is the origin of the work which I have the honour to day to present to the Academy." He proceeds to state in general his investigations of all the known perturbing causes operating on Uranus, and his determination of the actual amount of departure of Uranus from the places assigned by the theory.

In his second communication to the Academy, (at the session of June 1, 1846,) Le Verrier presents a history of the observations upon Uranus, and of the mode in which the tables of its motions have been constructed, and the errors which they involve; and a sketch of various hypotheses proposed to account for the inequalities of the motions of the planet. Having set these aside, he asks—*Is the other hypothesis of the existence of an unknown planet disturbing Uranus, more plausible?* After showing where this new planet cannot be situated, he arrives at this question—"Is it possible that the inequalities of Uranus are due to the action of a planet situated in the Ecliptic, at a mean distance double that of Uranus? And if so, where is the planet actually situated? What are the elements of the orbit which it traverses?" As one result of a rigorous discussion of this question, he gives, as a first approximation, this momentous conclusion, *that in assigning to the planet a heliocentric longitude of 325° for Jan. 1, 1847, there cannot be an error of 10°*. This assigned place he then promises to bring within narrower limits, by new computations. In recapitulating the labours required by his undertaking, he adds—"The existence of a planet hitherto unknown being thus established beyond a doubt, I have reversed the problem hitherto proposed in computing perturbations. Instead of measuring the action of a given planet, I have been obliged to set out from the inequalities observed in Uranus, in order to deduce the elements of the disturbing body, to give the place of this planet in the heavens, and to show that its action perfectly accounts for all the apparent inequalities of Uranus."

This remarkable prediction of the position of a planet hitherto entirely unknown, uttered with calm confidence by the mathematician in his closet, seems to have been received with faint faith even by the astronomical observers of Paris. For it is evident that the observer furnished with a good map of that region of the Ecliptic, which might have been made in a few hours from star catalogues, would have quickly detected a bright star not laid down. With a large telescope and a high power, this stranger would have presented a plain disc, and would thus have instantly disclosed its true character. Or, if, with a smaller instrument, its place had been carefully measured, the observation of the next morning would have shown its proper motion.

On the 31st of August, 1846, Le Verrier, with implicit reliance on the truth of his computation, presents to the Academy, a memoir "On the planet which causes the anomalies in the movement of Uranus," with a determination of its mass, its orbit and its actual position, (Comp. Ren., xxiii, 428.) In this paper he gives the elements at which he had arrived, as follows:—

Semi-axis major of the orbit,	36.154
Period of sidereal revolution,	217 yrs. 387
Eccentricity,	0.10761
Long. of perihelion,	284° 45' M. Eqz. 1847.0
Mean long. Jan. 1, 1847,	318 47
Mass,	$\frac{1}{9300}$

From which he derives the following position of the planet, Jan. 1, 1847.

True heliocentric longitude,	326° 32'
Distance from the Sun,	33.06,

and remarks that the planet was in opposition August 19th pre-

\* We are informed that the operation of excising a uterine polypus was recently performed in this city, with a fatal result, owing to excessive hemorrhage.—*Ed. N. Y. Journal.*

vious, and that the present was a favourable time to discover the body.

The semi-axis major might vary from 35.04 to 37.90, and the period from 207 to 233 sidereal years. The brilliancy of the planet ought to be about one third that of Uranus at its mean distance, and its angular diameter at opposition 3".3.

The action of the new planet, with elements as above determined, reconciles with theory, within very narrow limits, the observations of Uranus, both modern and ancient.

Even this memoir seems not to have overcome the incredulity or the indifference of astronomical observers, for it appears hardly possible that search could then have been made in the place pointed out by Le Verrier, without immediate success.

On the 5th of October, (Comp. Ren., xxiii, 657,) Le Verrier presented the fifth and last part of his researches, in which he gives his reasons for concluding that the plane of the orbit of the new planet is inclined at least  $4^{\circ} 38'$  to the plane of the orbit of Uranus. In a postscript, he adds, that on the 18th of September, he addressed a letter to M. Galle of Berlin, asking his aid in discovering the planet, and that this astronomer discovered the body on the very day on which the letter reached him. Its observed place Sept. 23, 12h 0m 14s, Berlin m. t., was R. A.  $328^{\circ} 19' 17''$  and S. dec.  $13^{\circ} 24' 8'' 2$ ; only  $52'$  from the place assigned by Le Verrier. M. Galle was furnished with the Berlin Academy Star-map of the 21st hour, (by Bremiker,) then just published, yet other astronomers could with very little labour have made for themselves from the star-catalogues, charts abundantly sufficient for the detection of a new body of such brilliancy. The whole history of the affair evinces much distrust or apathy on the part of the astronomical observers, and undoubting confidence on the part of the mathematician,—confidence which the event has most fully justified.

The annals of science show that a discovery has often been made about the same time in different countries, and by persons unconscious of each other's labours. The present case offers another instance of this nature. In the Lond. Edinr and Dub. Phil. Mag., Vol. xxix, No. 197, Suppl. No., Dec., 1847, G. B. Airy, Esq., the Astronomer Royal, has published numerous letters and other documents, (most of which had already appeared in the London Athenæum of Oct. 3, 17, 31, and Nov. 28, 1846,) proving that Mr. J. C. Adams, of St. John's College, Cambridge, undertook, as long ago as 1843, an investigation of the anomalies of Uranus. As a result of his labours, he left, on one of the last days of October, 1845, at the Royal Observatory, Greenwich, a paper of which the following is an extract:—

"According to my calculations, the observed irregularities in the motion of Uranus may be accounted for by supposing the existence of an exterior planet, the mass and orbit of which are as follows:—

Mean distance, (assumed nearly in accordance with Bode's law.)	-	-	-	38.4
Mean sidereal motion in 365.25 days,	-	-	-	$1^{\circ} 30' 9''$
Mean longitude, Oct. 1, 1845,	-	-	-	$323^{\circ} 34'$
Longitude of perihelion,	-	-	-	$315^{\circ} 55'$
Eccentricity,	-	-	-	0.1610
Mass,	-	-	-	0.0001656."

If the English astronomers had now searched the Ecliptic, through but a few degrees on each side of the point here indicated by Mr. Adams, they would, with clear weather, undoubtedly have discovered the new planet within a week. That they did not do this, must probably be attributed to a want of confidence in the computation. Or if Mr. Adams' note had then been printed, he would have secured the glory which is now, according to the recognized rule, due to M. Le Verrier. So easily is a glorious opportunity lost forever!

The coincidence between the position for the planet assigned in Le Verrier's paper of June 1, 1846, and that which Mr. Adams had given, was so remarkable, that Prof. Challis undertook to search for the body, with the aid of the Northumberland telescope of the Cambridge Observatory, one of the largest refractors in the world. He commenced his sweeps July 29, 1846, and between this date and the time of the arrival of the news of the discovery at Berlin, he actually secured two observations of the planet, but without recognizing them until then. These places are.

	R. A.	N. P. D.
1846, Aug., 4d 13h 36m 25	21h 58m 14.70	102 57 32.2
12 13 3 26	21 57 26.13	103 2 0.2

In a letter to Mr. Airy, dated Sept. 2, 1846, Mr. Adams gave results somewhat different from those communicated in October, 1845; the difference being due to the assumption of a mean distance about one-thirtieth less. He suggested, moreover, that "by still farther diminishing the distance, the agreement between the theory and the late observations might be rendered complete, and the eccentricity reduced at the same time to a very small quantity.

The new planet has doubtless been seen at all the observatories in this country, and may be easily detected by a good spy-glass. In the *Sidereal Messenger* Vol. i, No. 6, Prof. Mitchell, the director of the Cincinnati Observatory, has given an interesting account of his first observation upon the body with the large refractor. Having received, Oct. 28th, the news of the discovery, he directed the telescope, soon after 6 p. m., to the region of the heavens occupied by the planet, taking his place at the finder, the assistant being seated at the large telescope. "The planet was described as a star of the 8th magnitude. On placing my eye to the finder, four stars of this magnitude were seen. The first was brought to the centre of the field of view of the Equatorial, and after examination by my assistant was rejected—a second was examined critically, and in like manner rejected. The third star, a little smaller and whiter than the other two, was now brought into the field of view, and instantly I heard the exclamation from my assistant—'There it is! there's the planet! with a disc round, clear, and beautiful as that of Jupiter!' My own eye was now placed to the eye piece of the great refractor, and to my unspeakable pleasure, I found a beautiful disc, so well defined, that without any knowledge of a previous discovery, it never would have been passed over for a moment." Prof. Mitchell immediately proceeded to measure the diameter of the disc, six measures being made by his assistant, and six by himself; the mean of the whole gave 2.523. This is somewhat less than the result given by Schumacher. The real diameter of the planet is probably more than 40,000 miles.

The name of the new planet seems not yet quite determined. The mythological designations of *Janus*, *Oceanus*, *Neptunus*, *Atlas*, &c., have been proposed. M. Le Verrier, to whom the right of imposing the name undoubtedly belongs, has delegated this right to M. Arago. The latter denominates it *Le Verrier*. It seems unwise thus to depart from the received system of nomenclature; as *Uranus* and the five small planets must then change their titles; and it is also quite possible that the names of future discoveries may be either unpleasantly short or immoderately long, or otherwise unsuited for this celestial use.—*American Journal of Science and Arts*.

## THE British American Journal.

MONTREAL, MARCH 1, 1847.

### INHALATION OF SULPHURIC ETHER VAPOUR.

For the last two or three months, our exchange periodicals have teemed with remarks upon the narcotizing influence of the inhalation of sulphuric ether vapour, in surgical cases. We have attentively watched the progress of the discussions to which this novel mode of relieving the pain incident to surgical operations naturally led; and while we cannot but reprobate the method adopted by Mr. Morton, a dentist of Boston, (who claims the discovery,) in patenting the process, and endeavouring to render it tributary to his own pecuniary advantage, nor less, the encomiums passed upon it by Drs. Bigelow, Warren, and Hayward, of Boston, who lent themselves and their high names to the furtherance of the plans of the patentee, by recommending and countenancing what was

then, certainly, a secret nostrum, we yet conceive that there exist ample grounds for announcing this important act, that the pain attendant upon surgical operations may, in a great majority of cases, be very considerably alleviated, if not entirely allayed, by a recourse to the means of which we are now writing. The material employed is freshly washed sulphuric ether, with which a sponge is saturated, after having been placed in a two-necked bottle, to one of the necks of which is attached a mouth-piece. We have heard and read, that the ether contains a narcotic ingredient in solution, such as morphia, added with the intention of increasing and insuring the narcotic influence. This, however, is by no means essential. We do not believe that any of the morphia is inhaled under such circumstances, the narcotic and tranquilizing effects being entirely due to the ether—effects which that pharmaceutic agent has been for years known to be capable of inducing, although never thus specially applied until now.

We confess ourselves generally sceptical as to the good results which are frequently promised to flow from the employment of new remedies, and new modes of treatment, by those who, from laudable or interested motives, usher them before the notice of the profession. The very equivocal circumstances under which this one was laid before the profession rendered us even more sceptical and distrustful than usual: but we have perused a mass of evidence which has certainly convinced us most forcibly, that a means is now presented for mitigating, to a very marked extent, the excruciating pain and agony which are necessarily attendant upon operations of any magnitude.

How beneficial soever the employment of this agent may be, it appears that its use is not unfrequently attended with very unpleasant consequences; which may be, and probably are in many cases dependant on idiosyncrasy, and indicate great caution in its use. The symptoms of narcotism have occasionally proceeded to such an extent as to demand a counter treatment, and the cessation of the inhalation. Apoplectic symptoms, denoted by stertor, slow labouring pulse, and cold extremities, have been also witnessed; and, in some cases, violent muscular exertion, an effect the very opposite of that intended to have been produced. Great caution is, therefore, on these grounds, demanded, in the employment of the remedy; and a sufficient number of observations have scarcely yet been made, on which to found rules for its proper exhibition, although sufficient to prove its valuable narcotizing influence in a generality of the cases specified. Our readers will, we are satisfied, find the proceedings of the Surgical Society of Ireland on this

subject, which we have given on another page, full of interest.

#### THE MONTREAL SCHOOL OF MEDICINE AND SURGERY AND ITS DIPLOMAS.

In our last number we considered it our duty to apprise the profession and the public, of the proceedings of the School of Medicine and Surgery of this city in having issued diplomas without authority; we quoted their own words, from their own circular, as confirmatory of the fact; we gave the names of the parties who received them, and, we have been since informed, paid for them; and we exhibited a copy of the document from a diploma which we had seen. Sensible that the integrity of the profession was menaced by the proceeding, we felt ourselves compelled, not only to notice, but to condemn it; and we freely opened our pages to any reply which the members of that school might, under the circumstances, have been induced to make. But no reply has been received. We were either wrong or right in the course which we adopted. If the former, then were we highly censurable; but if the latter, then was the proceeding adopted by the school worthy of the severest reprobation. Had we been assured that the proceeding which called forth our animadversion would have been discontinued, we should have offered no further remarks on the matter; but when we have ascertained, and that on good authority, that the practice is to be continued, and that, in the course of a couple of months, a repetition of the scenes of last year is to be witnessed, and an additional number of their diplomas is to be foisted upon the profession and the public, we purpose to examine more closely into the legality of the proceedings; and we anticipate, that, however much our researches may "adorn a tale," they will not, in their results, be found particularly well qualified to "point a moral."

Of the three faculties, divinity, law, and physic, none is open to the same abuses as the last, in its practice, and in the honours which appertain to it. The credulity of the public mind is notorious; were it not so, quacks and quackery would long since have ceased to exist. But the case is far otherwise; and consequently, not only is the practice of quackery discountenanced, because fraught with evils of incalculable magnitude to the public, who are the real sufferers, but the slightest tendency to it on the part of the regular practitioner, is certain to be visited by reprehension, because casting discredit on the science of medicine, and violating its ethics. So is it, also, with the honours of the profession, whether in the shape of degrees or diplomas. They are passports to the favourable consideration of the holder on the part of the public. They are the public's guarantee of quali-



fication. To be of value, they must be genuine; that is to say, must be granted by corporate institutions, legally empowered to that effect; if otherwise, they are spurious; and although in themselves, under such circumstances, of no intrinsic value, yet the offence committed against the interests of the profession is so much the greater; for they not only tend to throw discredit on its real honours, which every member of the profession, jealous of its integrity, is bound to protect, but at the same time it becomes a *specious document, palmed off upon the community*, who have not the means generally of estimating its authenticity.

But it is contended that the diploma granted by the School of Medicine is an *honorary diploma*, and that they possess a right to grant such a document. By reference to their act of incorporation, proof abundant may be found that they are endowed with no authority to grant an *ordinary diploma*; *a fortiore*, they have none to grant an *honorary one*. But what a perversion of the term! The time was when honorary degrees and diplomas were the spontaneous tributes of universities and colleges to high scientific and literary attainment; now, and in this city, are they pretended to be granted to the mere students of a school. Formerly, money could not purchase them; now are they obtainable for the sum of \$15 each. *O! tempora! O! mores!*

But let us contrast the diploma of the School, with that of the Royal College of Surgeons, of Edinburgh, of which we now give a copy:—

#### COLLEGIUM REGIUM CHIRURGORUM CIVITATIS EDINBURGENSIS.

*Hisce literis testatur, virum ingeniosum, M. H. studijs præscriptis rite peractis, examini sese subjecisse, atque ita ad interrogata de iis respondisse, ut muneri tam Chirurgico quam Pharmaceutico, suscipiendo omnino par esse videretur.*

*Edinburgi die primo mensis Aprilis, anno millesimo octingentesimo trigesimo quarto.* (L. P.)

JOHANNES CAMPBELL, PRÆSES,  
GULIELMUS BROWN,  
JOHANNES GAIRDNER,  
ALEXANDER M'CAULAY,  
JOHANNES M'FARLANE, &c. &c.

Let our readers now compare this document with the diploma of the school published in our last number. The *spirit* of both is the same: the one is a testimonial of qualification, so is the other; and the one possesses exactly the same claim to be considered an honorary diploma as what the other does. But there is this differ-

ence, (one not easily appreciable by the public in general, as the analogy is drawn as closely as the difference of name and locality would permit, the year of incorporation of the school having been also affixed,) that the one is a valid document, emanating from a college in whose charter the authority is expressly delegated, while the other is the invalid document of a school, whose act of incorporation has delegated to them no power whatever, for such a purpose.

But we have stated in our last number, and we repeat it in this, that without an expressly delegated authority, the whole proceeding is illegal. Putting altogether out of the question the exceeding absurdity of the position, that because their act of incorporation, does not in express terms prohibit the issuing of diplomas, the school has a right to grant them, we will now show, that an *expressly delegated authority is required*, and we shall refer to British precedent and British practice, at the same time, challenging the proof of a single corporate Institution, in any part of the world, issuing degrees or diplomas without such duly transmitted power from the proper authorities of the respective countries.

The right of the Society of Apothecaries of London, to examine and grant their letters testimonial of qualification, will be found in the following extract from their charter, granted by King James the First, and printed by order of the House of Commons, on June 22, 1825.

*“Et postquam hujusmodi septem anni servitij sive tyrocinij (ut præfector), fuerint elapsi et exacti quod tunc unusquisque talis apprenticius coram magistro et custod., pro tempore existentibus appareat et præsentetur, ac per eosdem magistrum et custodes, advocat. sibi president. collegij seu communitatis facultatis medicinæ London pro tempore existen. aut aliquo medico aut aliquibus medicis per dict. president. nominand., et ad hoc de tempore in tempus assignand. si super moineoem inde factum tal. prædict. medicus vel talis prædicti medici, adesse voluerit et advisament. cum eodem vel eisdem, habit. circa cognitionem et electionem simplicium et circa medicament. preparationem dispensationem, tractionem, commixtionem et compositionem, examine-tur, probetur, tentetur, ac per eosdem medicos, magistrum et custodes, spectatus et approbatus fuerit, priusquam officinam. Pharmacop. habere, tenere, instruere aut medicamenta quæcunq. præparare,” &c. &c.*

A similar power was delegated to the Royal College of Physicians of London, in their charter, granted in the year 1522, by Henry VIII., and couched in the following words:—

III. “And where that in Dioceses of England, out of London, it is not light to find alway men able sufficiently to examine (after the statute) such as shall be admitted to exercise physick in them, that it may be enacted in this present Parliament, That no person from henceforth be suffered to exercise or practise in physick through England until such time as he be examined at London, by the said President, and three of the said Elects; and to have from the said President or Elects, letters testimonial of their



approving and examination, except he be a graduate of Oxford or Cambridge, which hath accomplished all things for his form without any grace."

The University of London is thus empowered. The extract is taken from its charter, dated 5th December, 1st Victoria:—

"And we further will and ordain that the said Chancellor, Vice-Chancellor, and Fellows, shall have power after examination to confer the several degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, Doctor of Laws, Bachelor of Medicine, Doctor of Medicine, and to examine for medical degrees in the four branches of Medicine, Surgery, Midwifery, and Pharmacy," &c. &c.

In the supplemental charter granted to the Royal College of Surgeons of Ireland, dated at the Court of St. James, 25th day of November, 1843, we find the following relating to the examination of candidates for letters testimonial:—

"And we do for us, our heirs, and successors, further ordain and appoint, that the examiners of the said College, or so many of them as may hereafter be declared necessary to constitute a Court or Board by any by-law, shall from time to time, upon request made to the President, or, in his absence, to the Vice-President, or any two of the Council of the said College, examine in such form and manner, and on such subjects as the Council may from time to time direct and prescribe, every person who shall be desirous of obtaining the certificate or letters testimonial of the said College, of his qualification to practice under the common seal of the said College," &c. &c.

Irrespective, however, of what we have advanced, the circumstances attending the application of the school for the power, and the actual refusal of that power by the Legislature, by deliberately striking out of their Act, every clause which could have admitted or conceded it, are, we think, sufficiently demonstrative, that it was not the intention of the Legislature that they should have exercised it, and that their doing so is necessarily illegal.

We think we have now furnished proof abundant, that, in the first place, honours in medicine, whether in the shape of degrees or diplomas, are not granted without especially delegated powers; in the second place, we have exhibited that no such powers have been granted to the School of Medicine by the Legislature, which conceded to them their Act of Incorporation; and, thirdly, it follows that, possessing no due authority, the diplomas which they have issued are illegal and invalid; and their proceeding, not only on these grounds, but also as affecting the best interests of the profession, to be condemned.

A curious corollary may be deduced from the conclusions just drawn from our argument. It will naturally suggest itself to every mind, and it consists in the fact that the school charges, and has received, the sum of £3 15s. for each diploma, the issue of

these diplomas being illegal, and the documents themselves invalid.

We do not wish to be considered the enemy of the school, or that we are writing against it through any acrimonious spirit. None more than ourselves more sincerely wish them well; but the path of rectitude is open to them as well as to all, and if they cannot walk in it themselves, they must excuse us if we direct them. We would wish them to preserve the character of the profession, not to impair it. To protect, not to injure its interests in its honours. The assumption of powers and privileges to which they are not entitled, is a procedure less likely to secure to them the confidence and the esteem of the profession at large, than to cause them to forfeit both.

In conclusion, we have to remark, that, however desirous certain parties may be to assign to the present article, and the one which appeared on the same subject in our last number, motives of a medico-political character, we utterly disclaim any such principle as guiding us. Politics have nothing whatever to do with the matter. It is a question simply of right or wrong. We think that the school, in the course which it has adopted, has far outstripped the bounds of propriety, and our earnest desire is to see it retrieve its position, by retracing its steps, and to desist from a practice, which cannot enhance its reputation in the eyes of the profession or the community at large.

#### RETIREMENT OF DR. MACDONNELL FROM THE CO-EDITORSHIP OF THIS JOURNAL.

It is our duty to announce to our readers, that Dr. MacDonnell has retired from editorial connection with this journal. In announcing this circumstance, it is incumbent on us to observe, that although not officially connected with it, he yet will afford the journal the benefit of his counsel and advice on important matters, and that his pen will not be idle in its favour when favourable opportunities and leisure permit. We have sincerely to thank him for the judicious assistance hitherto afforded to us, and it is with no slight feelings of pleasure that we state, that although his name be no longer officially connected with us, an unabated interest on his part in the prosperity of the journal still exists.

*Manuel de la Société de Tempérance, dédié à la Jeunesse Canadienne, par le Rev. Pere C. Chiniquy, Ptre. N. Oblat de Marie Immaculée. Seconde édition, etc. Montreal: Imprimeurs, M. M. Lovell & Gibson. 1847.*

This little work, comprising 180 pages, written in the French language, is devoted to the cause of the temperance reformation, through the instrumentality of

temperance societies. No men possess greater opportunities of witnessing the deplorable consequences of intemperance, morally as well as physically, than medical men. Far too frequently are they summoned to the bedside of suffering, disease, and a premature death, the seeds of which may be clearly traced to indulgence in that baneful habit. Philanthropically disposed, from the very nature of their profession, means destined to alleviate this fertile source of misery, receive general countenance at their hands. The author has treated well his subject, and we only regret, that so much of a religious character has been imparted to the work, that its general use will, of necessity, become much restricted, and its utility proportionately diminished. The reverend author seems to have forgotten, that among the Canadian youth are Protestants as well as Roman Catholics, and that there are to be found among the former, too many upon whom this manual might have produced great good, had it been presented in a form to which religious scruples on the part of friends could have urged no objection.

#### ACADEMY OF MEDICINE AND SURGERY IN THE CITY OF NEW YORK.

A meeting of the most influential members of the Profession, was lately held in the City of New York, for the purpose of organizing themselves into an association under the above designation. The proceedings were characterised by great unanimity of feeling and sentiment, and a committee having been appointed to draft a *constitution*, the objects of the association will be seen by a perusal of the Articles which were adopted at a subsequent assembly. We augur important and substantial benefits from the establishment of this academy; benefits, which, if the institution be properly managed, will reflect themselves on the profession at large, elevating not only its moral tone, but enhancing very considerably its social and political influence. The following is the constitution:

**ARTICLE I.** This Association shall be called the "NEW YORK ACADEMY OF MEDICINE," and be composed of Resident and Corresponding Fellows.

**ART. II.** The object of the Academy shall be:—

- 1st. The separation of Regular and Irregular Practitioners.
- 2d. The association of the Profession Proper for purposes of mutual recognition and fellowship.
- 3d. The promotion of the character, interests, and honour of the fraternity, by maintaining the union and harmony of the regular profession of the City and its vicinity, and aiming to elevate the standard of Medical Education.
- 4th. The cultivation and advancement of the Science, by our united exertions for mutual improvement, and our contributions to Medical Literature.

**ART. III.** The Resident Fellows shall be Regular Practitioners of Medicine or Surgery in the city of New York or its vicinity; shall be proposed by a Fellow of the Academy to the Committee on Admissions, which shall satisfy itself of the regular standing of the candidate, by credentials or otherwise, and upon its recommendation he may be admitted by vote of the Academy at a regular

meeting. A residence of three years in this city or vicinity shall be necessary to eligibility in the Fellowship of the Academy.

**ART. IV.** No Proprietor or Vendor of any patent or secret remedy or medicine, or any Empirical or Irregular Practitioner, shall either be admitted to, or retained in, the Fellowship of this Academy.

**ART. V.** Corresponding Fellows may be elected on the nomination of the Committee on Admissions, which shall vouch for their being duly qualified practitioners; but the votes of three-fourths of the Fellows present, at a regular meeting, shall be necessary for such election. The number of Corresponding fellows shall be limited to one hundred.

**ART. VI.** The Officers of this Academy shall be, a President, four Vice-Presidents, a Recording Secretary, two Corresponding Secretaries, designated for Domestic and Foreign Correspondence; a Treasurer, and a Librarian; who shall be elected annually by ballot at the regular meeting in January. They shall severally perform the duties indicated by the title of their respective offices.

**ART. VII.** The President shall appoint, immediately after his election, the following Standing Committees, each of which shall consist of five Resident Fellows:—

- 1st. A Committee on Admissions.
- 2d. A Committee on Finance.
- 3d. A Committee on Medical Ethics.
- 4th. A Committee on Publication.
- 5th. A Council of Appeal.

**ART. VIII.** Alterations of this Constitution shall not be made except at a meeting subsequent to that at which such alteration shall have been proposed in writing.

*Progress of the Cholera.*—We copy from the Glasgow *Constitutional* the following additional information respecting this singularly fatal disease:

Trebizonde, December 7.

The cholera is pursuing its march towards Europe. We have received accounts from Tabriz to the 24th of November, by which we learn that the scourge had ceased in that city. During eight days no case had been declared. The disease had carried its ravages to Choi, Makou, and Bajasid. This last city, of which the population had been several times decimated by the plague, is situated on the Turkish territory, adjoining the Persian and Russian frontiers, to the south of Mount Ararat. Thus the cholera is approaching the Black Sea by the road taken by the caravans, whilst it ascends, in another direction, the banks of the Euphrates and the Tigris, shaping its course towards Syria. Europe, therefore, is menaced on two sides. Notwithstanding the intense cold which prevails in Aserbeidjan, and on the table lands of Turkish Armenia, the scourge has extended thither. Neither the elevation of a town, nor the cold, appear to destroy the terrible epidemic. The population at Tabriz, which counted 125,000 souls, is now reduced to 100,000. More than 15,000 perished, and all the foreign merchants have quitted it.

*La Lancette Canadienne.*—This journal has increased its dimensions: the last number contained sixteen pages, instead of four, with which it commenced its existence. The journal is a neat specimen of Messrs. Lovell & Gibson's style of work. The selections are made with great judgment, and bespeak able management on the part of its editor, Dr. Leprohon. We wish it prosperity.

*New Medical College in Philadelphia.*—We have received the circular of a newly established College at Philadelphia, called "The Philadelphia College of Medicine," making, with those previously instituted, the fifth Medical Institution in that ancient seat of learning.

Only four Professors compose the Faculty. James M'Clintock, M.D., who gave popular lectures in this city a few years ago on Anatomy, is the Professor of Anatomy, Surgery, and Physiology. The number of lecturers in the different branches is far too limited. It is impossible that the subjects can receive justice, especially when we find that one lecturer's duty embraces the extensive fields of the Theory and Practice of Medicine, Midwifery, and Medical Jurisprudence; and, as in Dr. M'Clintock's case, Surgery, coupled with Anatomy. They must have associates, and the sooner they are added to the number now existing, the better will it be for the lecturers themselves, and the students who may attend their classes.

# STATISTICS OF THE TORONTO GENERAL DISPENSARY, FOR THE YEAR 1846.

## Medical Officers.

Dr. Joseph Hamilton, | Dr. E. M. Hodder,  
Dr. J. E. Rankin, | Dr. G. R. Grasett.

	Between 1st Jan. and 31st March.	Between 1st April and 30th June.	Between 1st July and 30th Sept.	Between 1st Oct. and 31st Dec.	Total.
Remained at last Report, . . .	...	...	...	...	...
Admitted during the year 1846, . . . . .	208	243	298	158	907
Cured, . . . . .	155	185	262	94	696
Relieved, . . . . .	32	37	24	5	98
Discharged for non attendance, . . . . .	15	12	4	5	36
Transferred to General Hospital, . . . . .	1	3	2	3	9
Died, . . . . .	5	6	6	4	21
Remaining, . . . . .	...	...	...	47	47
Per centage of Deaths, 2½.					

## General Observations.

The *epidemic* diseases of the present year were, *rubeola* during the spring months, and *variola* during the autumn and beginning of the winter. The former, in general, was of a mild character, and has wholly disappeared. The latter is spreading rapidly, and many cases of the confluent form have occurred. The cases of remittent fever were from the neighbourhood of the Don, a sluggish stream at the east end of the town, where a tract of land is always, more or less, partially submerged. An extensive marshy surface is thus left, and the soil, naturally rich, produces an abundant growth of wild grass, and other aquatic plants, and extensive vegetable decomposition takes place during the dry and warm weather of summer. Intermittent fever is therefore endemic during the autumnal season.

The following was the mean temperature of the air, as taken at 7 o'clock, a.m., and at 3 and 10 p.m., at Her Majesty's Magnetical Observatory near the city.

January, . . . . .	26.1	May, . . . . .	55.7	September, . . . . .	63.41
February, . . . . .	20.8	June, . . . . .	63.82	October, . . . . .	44.81
March, . . . . .	33.4	July, . . . . .	68.22	November, . . . . .	40.82
April, . . . . .	44.11	August, . . . . .	68.41	December, . . . . .	27.64

## Admitted during the year.

### DISEASES AND ACCIDENTS.

Abscessus, . . . . .	9	Icterus, . . . . .	2
Abortio, . . . . .	2	Laryngitis, . . . . .	1
Amenorrhœa, . . . . .	16	Leucorrhœa, . . . . .	3
Ambustio, . . . . .	6	Lichen, . . . . .	1
Amurosis, . . . . .	1	Luxatio, . . . . .	1
Aphthos, . . . . .	5	Melœna Cruenta, . . . . .	1
Anasarca, . . . . .	5	Meningitis, . . . . .	1
Asthma, . . . . .	3	Menorrhagia, . . . . .	5
Apoplexia, . . . . .	1	Metritis Chronica, . . . . .	1
Ascites, . . . . .	1	Morbus Cordis, . . . . .	5
Arthritis, . . . . .	8	Necrosis Tibiæ, . . . . .	1
Bronchitis Acutus, . . . . .	5	Neuralgia, . . . . .	2
"    Chronicus, . . . . .	13	Nymphomania, . . . . .	1
Cancerum Oris, . . . . .	1	Obesitatio, . . . . .	35
Cardialgia, . . . . .	1	Obstructio Œsophagi, . . . . .	1
Catarrhus Acutus, . . . . .	66	Odontalgia, . . . . .	16
"    Chronicus, . . . . .	14	Ophthalmia, . . . . .	24
Cephalalgia, . . . . .	2	Orchitis, . . . . .	1
Chlorosis, . . . . .	3	Otitis, . . . . .	1
Cholera Canadensis, . . . . .	10	Paralysis, . . . . .	4
Colica, . . . . .	6	Palpitatio, . . . . .	1
Contusio, . . . . .	17	Parturitio, . . . . .	2
Cynanche Parotidea, . . . . .	1	Pertussis, . . . . .	8
Tonsillaris, . . . . .	4	Phlegmon, . . . . .	3
Debilitas, . . . . .	17	Phthisis Pulmonalis, . . . . .	14
Dentitio, . . . . .	10	Phlebitis, . . . . .	1
Diarrhœa, . . . . .	94	Pleurodynia, . . . . .	6
"    Chronica, . . . . .	4	Pleuritis, . . . . .	4
Dysœcœa, . . . . .	3	Polypus Uteri, . . . . .	1
Dysenteria, . . . . .	6	Porrigo Capitis, . . . . .	16
Dysuria, . . . . .	3	Pneumonia, . . . . .	11
Dyspepsia, . . . . .	43	Prurigo Scroti, . . . . .	2
Enteritis, . . . . .	2	Psora, . . . . .	1
Entropium, . . . . .	1	Psoriasis, . . . . .	4
Enuresis, . . . . .	1	Pyrosis, . . . . .	1
Epilepsia, . . . . .	1	Rheumatismus Acutus, . . . . .	21
Erythema, . . . . .	2	"    Chronicus, . . . . .	18
Excoriatio, . . . . .	2	Rubeola, . . . . .	49
Febris Continua Communis . . . . .	19	Schirrus Piloni, . . . . .	2
"    Intermit. Quotidiana . . . . .	36	Scrofula, . . . . .	5
"    "    Tertiana, . . . . .	43	Sequelæ Morborum, . . . . .	10
"    Remittens, . . . . .	4	Spasmus, . . . . .	1
"    Infantilis, . . . . .	6	Splenitis, . . . . .	2
Fractura, . . . . .	2	Subluxatio, . . . . .	3
Gastritis, . . . . .	1	Syphilis Primaria, . . . . .	3
Gastrodynia, . . . . .	6	"    Consecutiva, . . . . .	2
Gastro-enteritis, . . . . .	2	Suppressio Mensium, . . . . .	1
Gelatio, . . . . .	2	Tabes Meenterica, . . . . .	2
Gonorrhœa, . . . . .	3	Tinea Capitis, . . . . .	1
"    Dormientium, . . . . .	1	Ulcus, . . . . .	17
Hæmorrhœis, . . . . .	2	Variola, . . . . .	6
Hæmiptysis, . . . . .	1	Varicella, . . . . .	1
Hæmorrhagia Uterina, . . . . .	1	Venæ Varicosæ, . . . . .	2
Hæmatemesis, . . . . .	3	Veneficium, . . . . .	1
Hemiplegia, . . . . .	2	Vermea, . . . . .	27
Hepatitis Chronica, . . . . .	7	Vertigo, . . . . .	1
Hernia, . . . . .	2	Vesicæ Irritatio, . . . . .	1
Herpes, . . . . .	5	Vulnus Incisum, . . . . .	4
Hydrops Saccatus, . . . . .	1		
Hypertrophia Splenis, . . . . .	1	Total, . . . . .	907
Hysteria, . . . . .	6		

## Remarks.

A fatal case of contusio, was the result of chronic injury, produced by severe concussion.

A fatal case of acute rheumatism was in a boy, and terminated in extensive abscess. Death took place suddenly.

The majority of cases of intermittent fever, both of the quotidian and tertian form, was from March Street, which is almost exclusively in the possession of persons of the poorest class, many of whom take up their temporary abode there, and hence the probable reason that a majority did not proceed from the neighbourhood of the Don, (see remarks to 1st table,) from which, notwithstanding, a large proportion was admitted.

The frequency of dyspepsia is attributed to the readiness of obtaining ardent spirits, which are freely used by the class of patients receiving relief from this Institution.

Males, . . . . . 367  
Females, . . . . . 540

Married, as far as ascertained, . . . 277

Labourers, . . . . .	109	Sailmakers, . . . . .	1
Shoemakers, . . . . .	7	Blacksmiths, . . . . .	1
Carpenters, . . . . .	10	Sawyers, . . . . .	1
Tailors, . . . . .	2	Millers, . . . . .	1
Curriers, . . . . .	1	Distillers, . . . . .	1
Gardeners, . . . . .	10	Lineburners, . . . . .	1
Shoebinders, . . . . .	3	Servants, Nurses, &c., . . . . .	44
Sailors, . . . . .	8	Char. women, . . . . .	41
Butchers, . . . . .	1	Laundresses, . . . . .	36
Tinsmiths, . . . . .	4	Employed in Needlework, . . . . .	46
Apprentices, . . . . .	3	"    in Domesticwork, . . . . .	159
Stonemasons, . . . . .	1	Quilt & Stocking-knitters, . . . . .	
Printers, . . . . .	1	Spinning, &c., . . . . .	14
Fruiters, . . . . .	6	Straw-bonnet makers, . . . . .	1
Pedlars, . . . . .	4	Midwives, . . . . .	1
Ostlers, . . . . .	1	Agents, . . . . .	1
Tin-roofers, . . . . .	1	Teachers, . . . . .	2
Weavers, . . . . .	2	At School, . . . . .	45
Bookbinders, . . . . .	2	Without any Occupation, . . . . .	324
Hucksters & Market-women . . . . .	8		
Carters, . . . . .	2	Total, . . . . .	907
Ropemakers, . . . . .	1		

## Remarks.

Those named as being without occupation, are infirm persons; aged pensioners; and young children, &c.

Natives of—England, 78; Ireland, 541; Scotland, 19; Wales, 1; Isle of Man, 1; West Indies, 1; Canada, 232; United States, 34; Total, 907.

## General Observations.

The natives of Ireland have a large preponderance, as exhibited in this table, and this number would be greatly augmented, were their children included, who were born soon after their arrival in this country. Many of those entered, as belonging to the United States, are the children of parents of British origin, and a few consist of coloured persons.

Toronto, January, 1847.

## TO CORRESPONDENTS.

A letter from Dr. Grasset, Toronto, has been received. A reply will be transmitted in the course of a few days.

We have been advised of a communication from — of — village about 30 miles distant from this city. Intemperance in medical practitioners cannot be too severely reprobated; but we do not see what redress can be afforded in the case specified. It is melancholy to contemplate to what results this habit leads. However strong the suspicion may be, that through the intemperance of the individual alluded to, and his consequent improper practice in the cases, death may have been the consequence; yet it would be a very difficult matter to afford or adduce sufficient proof of such a circumstance. Could such proof be afforded, and the case be sustained, an indictment for manslaughter would undoubtedly lie. The community, however, has in its own hands the means of punishment; and it is one which would infallibly tell; it is not to employ him or consult him. The reason would soon force itself upon his mind, and in self-defence he would be compelled to quit the neighbourhood or reform his habits.

ERRATA IN OUR LAST.—The name of Dr. Fenwick recently graduated at McGill College, should have been George Edgeworth, instead of George Augustus.

For "November," in the heading of the Meteorological Table, for the City of Montreal, read "December."

From an oversight, the three following articles in our last number were not accredited, namely, that on Gun Cotton, Ammonia as a Vesicant, and Citrate of Iron and Ammonia. The first was taken from the American Journal of Science and Arts; and the two last from the Southern Journal of Medicine and Pharmacy. We have frequently laid our esteemed contemporaries under contribution to fill our pages; and we would not repay them by robbing them, as it were, of their articles, without proper acknowledgement. "Sum cuique tribuito," is an adage which we would not willingly violate.

## TO SUBSCRIBERS.

We beg to apprise our subscribers in Canada West, that Mr Wood is at present collecting subscriptions due to this journal.

## BOOKS etc. RECEIVED DURING THE MONTH.

Boston Medical and Surgical Journal, February 3, 16, 17, 24.  
New York Medical and Surgical Reporter, February 6, 13, 20.  
Western Lancet, January, 1847.  
Southern Medical and Surgical Journal, February, 1847.  
Medical News and Library, February, 1847.  
The Medical Examiner, February, 1847.  
La Lancette Canadienne, February, 1, 15.  
Annual Announcement of the Philadelphia College of Medicine, Session 1847.  
Buffalo Medical Journal, No. 9.  
Dublin Medical Press, January 6, 13, 20, 27, February 3.  
Stockton's Dental Intelligencer, February 1.  
Twenty-sixth Annual Report of the Bloomingdale Asylum for the Insane. By P. Earle, M.D. New York, 1847.  
Illustrated Botany, December, January.  
Report of the Pennsylvania Hospital for the Insane, for the year 1846. By Thomas, P. Kirkbride, Physician to the Institution. Philadelphia, 1847.  
Fourth Annual Report of the Managers of the State Lunatic Asylum, made to the Legislature, February 2, 1847. Albany.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending JANUARY 31, 1847.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Scarlatina,.....	1	2	2	1	1	2	2	1	2	1	2	1	1	1
	Small Pox,.....	1	2	3	1	1	2	2	1	2	1	2	1	1	1
	Fever,.....	10	8	18	2	5	2	2	1	2	1	2	1	1	1
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Hydrocephalus,.....	2	2	4	1	2	1	1	1	1	1	1	1	1	1
	Paralysis,.....	1	2	2	1	1	1	1	1	1	1	1	1	1	1
	Convulsions,.....	1	4	5	4	1	1	1	1	1	1	1	1	1	1
	Dentition,.....	10	4	14	7	7	1	1	1	1	1	1	1	1	1
	Inflam. of Brain,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DISEASES OF RESPIRATORY ORGANS,.....	Apoplexy,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Consumption,.....	14	14	28	8	2	1	1	1	6	4	3	3	3	3
	Pleurisy,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DISEASES OF ABDOMINAL VISCERA,.....	Croup,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Diarrhea,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Dropsy,.....	2	3	5	1	1	1	1	1	2	1	1	1	1	1
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Debility,.....	2	7	9	1	1	1	1	1	1	1	1	1	1	1
	Inflammation,.....	8	7	15	8	2	1	1	1	3	1	1	1	1	1
	Unknown,.....	4	2	6	2	1	1	1	1	1	2	1	1	1	1
	Still-born,.....	2	2	2	1	1	1	1	1	1	1	1	1	1	1
	Sudden Death,.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Accidental,.....	2	1	2	1	1	1	1	1	1	1	1	1	1	1
Total,.....		62	59	122	33	20	9	4	1	10	10	6	9	10	7

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR JANUARY 1847.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1.	+23	+31	+17	+27.	29.92	29.98	30.07	29.99	W.	W.	W.	Snow	Fair	Fair
2.	" 22	" 32	" 31	" 27.	29.88	29.96	30.03	29.97	W. by S.	W. by S.	W. by S.	Snow	Sleet	Fair
3.	" 34	" 27	" 32	" 30.5	30.20	30.24	30.34	30.26	W.	W.	W.	Fair	Fair	Fair
4.	" 13	" 25	" 29	" 19.	30.43	30.22	29.67	30.11	N. W.	N. W.	W.	Fair	Snow	Snow
5.	" 33	" 36	" 33	" 34.5	29.33	29.41	29.60	29.45	W. S. W.	W.	W.	Rain	Fair	Fair
6.	" 28	" 35	" 27	" 31.5	29.95	29.97	29.93	29.95	W.	W.	W. by N.	Fair	Fair	Fair
7.	" 22	" 34	" 15	" 28.	29.47	29.21	29.03	29.28	S. E.	S. E.	S. E.	Fair	Rain	Snow
8.	- 1	" 11	" 11	" 5.	29.64	29.82	30.02	29.83	W.	W.	W.	Fair	Fair	Fair
9.	+11	" 19	" 16	" 15.	30.20	30.12	30.10	30.14	W.	W. by N.	W.	Fair	Fair	Snow
10.	" 10	" 15	" 10	" 12.5	30.21	30.23	30.17	30.20	W.	W.	W.	Fair	Fair	Fair
11.	" 9	" 16	" 13	" 12.5	30.04	29.93	29.87	29.95	W.	W.	W.	Foggy	Fair	Snow
12.	" 5	" 14	" 9	" 9.5	30.16	30.29	30.29	30.25	W.	W.	W.	Fair	Fair	Fair
13.	" 15	" 23	" 17	" 19.	30.34	30.08	29.90	30.11	W. by S.	W. by S.	W. S. W.	Fair	Fair	Fair
14.	" 21	" 32	" 30	" 26.5	29.82	29.72	29.89	29.81	S.	S.	S. W.	Cloudy	Fair	Fair
15.	" 12	" 11	" 22	" 11.5	30.00	29.65	29.46	29.70	N. E.	N. E. by N.	N. E. by N.	Fair	Snow	Sleet
16.	" 23	" 30	" 6	" 26.5	29.38	29.55	30.07	29.67	N. E.	N. W.	N. W.	Rain	Fair	Fair
17.	- 9	- 0	- 7	- 4.5	30.49	30.50	30.43	30.47	N. W.	N. W.	N. W.	Fair	Fair	Fair
18.	" 10	+ 4	+10	+ 7.	30.03	29.74	29.58	29.78	N. W.	N. W.	N. W.	Fair	Snow	Fair
19.	+ 8	" 8	0	" 8.	29.85	30.07	30.30	30.07	N. W.	N. W.	N. W.	Fair	Fair	Fair
20.	- 6	" 14	+ 7	" 4.	30.23	30.38	30.22	30.28	S. W.	S. W.	W. S. W.	Fair	Fair	Fair
21.	" 2	" 9	- 8	" 3.5	30.08	30.01	30.10	30.06	N. E.	N. E.	W.	Fair	Fair	Fair
22.	" 8	" 7	+ 7	- 0.5	30.10	30.06	29.94	30.03	W.	W.	W.	Fair	Fair	Cloudy
23.	+11	" 26	" 16	+18.5	29.62	29.55	29.80	29.66	S.	S. W.	S. W. by W.	Snow	Fair	Fair
24.	" 20	" 21	" 10	" 20.5	29.82	29.87	30.18	29.96	W.	W. N. W.	N. W.	Snow	Fair	Fair
25.	" 5	" 11	- 0	" 8.	30.38	30.42	30.40	30.40	N. W.	N. W.	N. W.	Fair	Fair	Fair
26.	- 2	" 10	+12	- 4.	30.16	30.11	29.96	30.08	N. by W.	N. E.	N. E.	Fair	Snow	Snow
27.	+ 1	" 6	- 4	+ 3.5	29.85	30.00	30.13	29.99	W.	W.	W.	Fair	Fair	Fair
28.	-10	" 9	0	- 0.5	30.22	30.17	30.08	30.16	W.	W.	W.	Fair	Fair	Fair
29.	+ 7	" 10	+10	+ 8.5	30.10	29.95	29.57	29.87	W.	W. N. W.	W. N. W.	Fair	Snow	Snow
30.	" 14	" 21	" 2	" 17.5	29.33	29.44	29.70	29.49	N. E.	N.	N.	Snow	Fair	Fair
31.	- 7	" 7	- 7	- 0.	29.90	29.89	29.91	29.90	W. N. W.	W. by N.	W.	Fair	Fair	Fair

THERM. { Max. Temp., +36° on the 5th.  
 { Min. " -10° " 18th and 23th.  
 Mean of the Month, +18° 5.

BAROMETER, { Maximum, 30.50 Inches on the 17th.  
 { Minimum, 29.08 " " 7th.  
 Mean of Month, 29.96 Inches.

## TO MEDICAL STUDENTS.

A Gentleman who has had extensive experience in preparing **MEDICAL STUDENTS** for their **CLASSICAL EXAMINATION**, at the various Medical Boards in Great Britain, being now resident in this City, offers his services during the ensuing winter to such students as may be desirous of availing themselves of the opportunity of augmenting their knowledge of Latin.

Should sufficient applicants present themselves in the first week of November, a class will be formed to meet at an hour that will not interfere with any of the Lectures.

Cards of Address, &c., may be obtained at the **GENERAL HOSPITAL, of the House Surgeon;**  
**M'GILL COLLEGE, of the Demonstrator of Anatomy;**  
**SCHOOL OF MEDICINE, of do. do.**  
And at the **OLD MEDICAL HALL, Notre Dame Street.**  
Montreal, October 26, 1846.

## UNIVERSITY OF M'GILL COLLEGE, MONTREAL.

**THE CAPUT** of the **COLLEGE** having this day received, through the Principal, an Official Communication of the Confirmation by Her Majesty of the **STATUTES** of the **COLLEGE**, avails itself of the earliest opportunity of announcing the **COURSE** of **LECTURES** to be delivered in the College during the Current Term:—

*On Classical Literature*—By the Rev. W. T. LEACH, A.M., Professor.

*On Mathematics and Natural Philosophy*—By EDMUND A. MEREDITH, LL.B., (I.C.D.) Principal of the College.

*On History*—By the Rev. JOSEPH ABBOTT, A.M.

*On French Literature and the French Language*—By LEON D. MONTIER, Esquire.

Fees, £3 6s. 8d. per Term, or £10 a-year.—Board, including Fuel and Candle, £3 5s. a-month.

J. ABBOTT, A.M.,  
Sept. 21, 1846. Secretary.

## SCHOOL OF MEDICINE AND SURGERY, MONTREAL.

**THE LECTURES** of this "School" will commence on the First Monday in November, 1846, and will continue till the 1st of May, 1847.

A *Concours*, for the purpose of **ELECTING LECTURERS** to **CHAIRS** of **INSTITUTES** of **MEDICINE**, **MEDICAL JURISPRUDENCE** and **BOTANY**, will be held at the School of Medicine and Surgery, on Saturday, 28th November, 1846, at Ten o'clock, A.M.

And, on the 30th November, (Monday following,) another *Concours* will be held, for the **ELECTION** of a **SECOND DEMONSTRATOR** of **ANATOMY**. Candidates must understand the French and English Languages.

Any information in relation to the Institution can be obtained by applying to the Secretary, Dr. SUTHERLAND, Little St. James Street.

Montreal, September 29, 1846.

## SURGICAL INSTRUMENTS, AND DRUGGISTS SUNDRIES.

**THE** Subscribers have on hand a large assortment of London made Instruments, imported from the most approved and respectable manufacturers, which they offer to the faculty at very low prices:—among them will be found the following:—

Aneurism Needles,	Wedge Wood Funnels,
Bistouries,	Enemas in variety,
Bougies,	Medical Jars,
Bandages,	Blunt Hooks,
Forceps, Bullet,	Gorgets blunt,
Do. Throat,	Do. Cutting,
Do. Bone,	Mudge's Inhalers,
Do. Hamilton's Midwife	Maw's double-valved do.
[ry,	Lancet Cases, Tortoise shell
Do. Conquest's Do.	Do. Silver various
Do. Highton's Do.	Pessaries,
Catheter's Gum Elastic,	Probes,
Do. Silver,	Probangs,
Do. German Silver,	Trusses,
Tournaquets,	Tenacula,
Trephining Instruments,	Tincture Presses,
Cupping, do.	Tooth Keys, various,
Scarificators,	Urinometers,
Breast Pumps,	Hair Gloves,
Do do Maw's Improved	Clines Splints,
Dissecting Cases,	Steel Sounds,
Pocket Cases,	Respirators, Ladies,
Strabismus Instruments,	Do. Gents.
Spatulas,	Scalpels,
Do Plated,	Stethoscopes,
Cork Squeezers,	Trocars,
Infusion Pots,	Dispensing Scales,
Tela Vesicatoria, or Blister-	Pill Machines, with marble
ing Tissue,	slabs,
Pill Tiles,	&c. &c.

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## SURGICAL INSTRUMENTS.

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With every variety of Instruments usually required.

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Orders from the Country will receive particular attention.

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WM. LYMAN & CO.

THE  
**BRITISH AMERICAN JOURNAL**  
 OF  
**MEDICAL AND PHYSICAL SCIENCE.**

Vol. II.]

MONTREAL, APRIL, 1847.

[No. 12.]

**ON POISONING BY OPIUM.**

*Read before the Toronto Medico-Chirurgical Society,  
 2d December, 1846.*

By Dr. GEORGE R. GRASSETT, M.T.M.C.S.

MR. CHAIRMAN: As no intention of presenting a paper this evening has been expressed by any of the members now present, I propose, with your permission, to submit for the consideration of the society an instance of poisoning, which has recently fallen under my observation. I am quite aware that cases of this nature not unfrequently occur, but this circumstance, I hope, will not be deemed of sufficient weight to shut out from the open field of inquiry a further investigation into the character of their phenomena, and the method of treatment which experience may point out as being the most desirable to pursue. It would, I am sure, but prove the expression of your own sentiments, were I to affirm, that, in ranging through that field, some new feature is continually presenting itself; some peculiarity, which had hitherto escaped the closest observation; some modification, which the slightest change of relative position (like that of the revolving kaleidoscope), can not fail to produce in the ever varying phases of medical science. Of this a pleasing evidence was afforded on the occasion of our last regular meeting, when some interesting remarks were read, tending to show, that even to the concentrated wisdom displayed in the production of our pharmacopeia, additions of a highly useful character may unquestionably be made; and although the same result is not now to be anticipated, and it is out of my power to lead my professional brethren this evening through any other than the ordinary track, yet the mere discussion of a subject of this nature, must carry with it a greater or less degree of interest, and must have a tendency to elicit something which may prove of service in the future treatment of similar cases.

Two instances of poisoning by opium have occurred in my practice, within the last few months. The first had its origin in pecuniary losses, and presented no features of an interesting nature, except that on recovery extreme vigilance was present, and a long period elapsed before sleep could be procured. The second took place within the last few days, the attempt at

suicide being induced by the previous commission of a crime, the painful details of which it would be unnecessary to lay before you.

The patient was a young man, eight and twenty or thirty years of age, naturally very intelligent, but inclined to habits of dissipation, and occasionally indulging in the free use of ardent spirits. His guilt having been discovered and exposed, he resolved upon self-destruction, and for this purpose he procured from a druggist one ounce, by measurement, of tincture of opium. On retiring to his bed room, at a late hour, he swallowed the contents of the phial, but shortly afterwards, being seized with remorse, he gave an alarm, by knocking repeatedly against the partition wall. Pointing, with some excitement of manner, to the hearth on which the phial had been thrown, he observed, "I have done the deed." It was soon discovered that he had poisoned himself, but from ill-judged and unfounded apprehension, a messenger was despatched in the first instance to the police station, a considerable distance from the spot. Two of the constables on duty promptly arrived, and a second message was then sent, requesting my attendance. I reached the house shortly after midnight, and, as near as could be ascertained, about three quarters of an hour after the opium had been taken. The phial had been broken by the fall, and it was evident that a small quantity (probably half a drachm) of the fluid had remained, as traces of it could be distinctly seen on the hearth. He was now in a state of profound coma, or stupor; the pulse quick and small; the respiration somewhat slower than usual, but scarcely to be deemed stertorous; the eye-lids closed, and the pupils rigidly and permanently contracted. The face was palid; lips somewhat of a blueish tinge; and the skin generally perspirable. The odour from the drug was less perceptible than might have been expected. The stomach must have been empty, or nearly so, at the time the poison was swallowed, and consequently rapid effect took place. With reference to this point, Dr. David Skae observes,\* that in a case of poisoning by opium, which occurred in Edinburgh Castle, the particulars of which were furnished him by Dr. Cowper, of the 29th regiment; "the

\* Cormack's Journal.



individual was found *totally insensible*, fifteen minutes after the poison had been taken." Such was the state of my patient on my arrival, and no attempt at treatment of any sort had been resorted to by those whom the report of the event had attracted to the spot. I had brought a drachm of sulphate of zinc with me, and directing that he should be immediately raised and held in the upright posture by two men, I contrived to give him half of it in a little tepid water, which was a matter of no small difficulty, from the almost totally suspended power of deglutition. He was then dragged round the room, more like a corpse than a living being, and fortunately abundance of help was at hand for this purpose, as it required almost Herculean strength to support his weight, his form being very muscular, and his height upwards of six feet. Fifteen or twenty minutes had elapsed, and no effect was produced by the zinc; the other half was therefore given, the stomach pump being rendered useless from the accidental loss at the moment of a very important part of the tube. I was, therefore, obliged to proceed with such means as were at hand, but as no effort at vomiting was yet manifested, I began to think that it would be almost impossible to supply the want of an apparatus so essential in cases of this description. Draughts of warm water were poured down from time to time; constant motion kept up in the manner already described, and at length I had the gratification of seeing a copious ejection from the stomach of a dark coloured fluid. The effect of this was very marked, for consciousness now began, in some measure, to return, and warm water could be swallowed without much difficulty. After each act of vomiting, sensibility seemed to increase; articulation was partially restored; and he was now apparently aware that he was under medical treatment, for, opening his eyes (which he had great difficulty in doing), he implored me to allow him to lie down, even if only for a few minutes. The desire for sleep was most pressing, and resistance to it was evidently extremely painful to him. He continued occasionally to entreat for permission to rest, but as yet, this would have been manifestly improper; and the absolute necessity, therefore, of continuing in motion having been impressed upon him, his supporters renewed their trying office with unwearied assiduity. Whether occasioned by the narcotic, or whether from the acrid effect of the zinc, I was unable to determine, but at this time thirst was much complained of, and he begged that cold water might be substituted for the strong coffee which had latterly been very plentifully supplied. To this request I readily yielded, and I fear that I should be thought desirous of imposing upon your credulity, were I to state the aggregate quantity of his potations within the

short space of one hour. From this period he rapidly improved, walking with but little support, and at length, about day light, he was permitted to lie down, and indulge the now much diminished desire for repose. At seven o'clock in the morning, he was in a tranquil slumber, from which he was easily aroused, and in reply to my inquiry, expressed himself free from uneasiness, except perhaps a slight degree of headache. A light breakfast was recommended, with a small quantity of brandy and water, to be taken immediately afterwards, and some gently aperient medicine in the course of the morning. No interruption to convalescence subsequently occurred.

I will only detain you with one or two observations in conclusion.

1, However alike the symptoms of poisoning by opium may generally be, there are undoubtedly cases where dissimilarity is to be found. In my own practice I have remarked this, and I doubt not that you have noticed the same fact also. In the experience of the writer to whom I have referred, diarrhæa and colic, accompanied with severe pain, were present in some, while diuresis, with convulsion and delirium, occurred in others. The pulse, breathing, and appearance likewise vary materially. And,

2, As in the symptoms, so also in the progress of these cases, does a difference exist, for in one which he relates in the *Edinburgh Medical and Surgical Journal*, "about half an ounce of laudanum was taken, and considerably more than an hour afterwards (during which time the patient slept), he arose spontaneously from bed and procured a drink for himself: about ten hours afterwards he died, with all the symptoms of narcotic poisoning." In another case, "where the dose was *small*, but also *fatal*, the individual answered some questions readily and cheerfully, two or three hours after swallowing the poison." A great difference, too, is observed in the quantity which produces a fatal effect. Four grains are stated by Dr. Paris to have occasioned death in an adult, and a case is related by Dr. Christison, in which the same event occurred from the administration of four grains and a half of opium, with nine of camphor.

3, With respect to the treatment which was pursued, if it should be regarded as an omission that acidulated drinks were not freely administered, the best explanation which can be offered is grounded on the objection entertained to the only one which was believed to be at hand, namely, vinegar and water; and, however unfounded such an objection may be considered, I could not divest myself of the idea, that it is in itself possessed of qualities which are calculated—if not to promote absorption—to add, at least in some degree, to the nar-

cotic effects of the drug. In any event, my professional brethren have no reason to yield to discouragement should they hereafter be required to treat a similar case, unaccompanied with an apparatus, which, however confessedly valuable and important, cannot be said to be *absolutely indispensable*. And although this remark is not by any means intended as an apology for a deliberate rejection of its aid, yet the case now brought under notice affords sufficient proof that, in its unavoidable absence, a perseverance in the most simple means may, under the Divine blessing, be attended with complete success.

Toronto, C. W., December 2, 1846.

#### CASE OF ERYSIPELAS, WITH REMARKS.

By W. FRASER, M. D.

Lecturer on Medical Jurisprudence, McGill College.

The following case of Erysipelas of the throat, face, and scalp, will be found, I think, interesting, in regard to the seat, and severity of the local symptoms by which the patient's life was placed in the most imminent danger. Different plans of both general and local treatment having been recommended by writers of authority for this disease, and their respective merits being by no means settled, it is the duty, therefore, of every member of the profession to contribute, fairly and impartially, whatever cases may come under his observation, bearing on any such *verata questio*.

On the 23rd January last, at 6 p. m., was called to D. B—, aged 36; robust, temperate, and health in general good; by occupation a builder. States that at ten o'clock this morning, on entering a neighbour's office, he felt the room oppressively warm, and on opening the door to cool it, he became chilly. A few hours afterwards was calling at a friend's, who remarked that his face was unnaturally red, which he himself felt unusually warm. He now has a slight headache, and a feeling of general languor; tongue slightly furred, skin dry, without much fever. Solution of muriate of morphia, half a drachm; solution of antimony, one drachm; camphor mixture, one ounce—mix and take immediately. Mustard pediluvium. Warm drinks. Three colocynth and calomel pills at bed time.

24th.—Slept some, but did not perspire; more feverish, headache; bowels not being opened, took, of his own accord, this morning, a dose of castor oil. Ordered an emetic. Seven p. m.—Still feverish; bowels moved. Nitrate of potash; muriate of ammonia, of each ten grains; solution of antimony, half a drachm; camphor mixture, one ounce—mix and take every four hours.

25th.—No decided alteration. Headache, skin not perspirable; mixture appears acting on the bowels.

Complains of general uncomfortable feeling, which appears muscular. Continue mixture, with the addition of three drops of tincture of opium to each dose.

26th.—More feverish. Complains of throat being sore, which is red. Continue mixture, without the tincture of opium, every three hours. To use an astringent gargle frequently.

27th.—Was called to him at two a. m., on account of excruciating pain which he suffered, shooting from throat to left ear. The parotid was swollen; the tonsils, velum, uvula, and pharynx, were intensely red and greatly swollen, especially the latter, which was twice its natural size. He had much difficulty in swallowing and breathing; spoke in a hoarse whisper, and was obliged to sit in an arm chair on account of dyspnoea. Pulse 132 of good strength. Took twenty ounces of blood from his arm. Scarified tonsils and uvula. Ordered lintseed poultice to throat. Tartrate of antimony, four grains; nitrate of potash, one drachm; water, four ounces—mix, give a tablespoon full every half hour till sickness supervenes. Eight a. m.—Respiration and deglutition still difficult. Is unable to lie in bed on account of dyspnoea; very restless; bowels moved freely by mixture. Pulse still good. Took sixteen ounces more blood from his arm. Ordered six leeches to be applied to his throat. Mixture to be continued every two hours. To use a sugar of lead and opium gargle for throat, and an inhaler. Seven p. m.—Bowels opened frequently; breathes and swallows rather easier. Continue mixture every fourth hour.

28th.—I was called to him at five a. m., on account of swelling of the nose which prevented his breathing freely; found him much alarmed, sneiderian membrane swollen, and the continuous skin, for half an inch on each side of nose, having a distinct erysipelatous appearance, evidently extending; he also complained of general headache, especially over frontal sinuses. Cleared out nostrils; and applied two leeches to sneiderian membrane, which bled freely. Directed sugar of lead and opium wash to be applied warm to nose externally. Eleven a. m.—Has found great relief from leeching and lotion, headach and difficulty of respiration much alleviated. Erysipelas spreading on face. Omit mixture. Continue lotion. Soda water for drink.

29th, ten a. m.—Passed a restless night, feels weak; says he is sinking. Pulse 140, small and fluttering. Complains still of throat. Besides his sage gruel to have beef tea. Carbonate of ammonia, five grains; camphor mixture, two ounces—mix, take every fourth hour. Gargle. Continue lotion.

30th, ten a. m.—Pulse stronger and more regular. Is troubled with an uncomfortable feeling at stomach, like

hiccup; bowels not moved for last twenty-four hours. Hydrargyrum cum creta, ten grains; aromatic powder, three grains—mix, and give now; to be followed in two hours by half an ounce of castor oil. Eight p. m.—Much the same; disease extending over cheeks and forehead; says he would give a great deal for a night's sleep. Extract of henbane; extract of hemlock, of each four grains; mucilage, two drachms; solution of acetate of ammonia, two drachms; camphor mixture, half an ounce—mix, and give now; to be repeated in four hours, if not asleep.

31st.—Upon the whole passed a better night than any previous one; has had several naps of half an hour's duration. The disease extending along forehead and temples on scalp; throat and nose are now much better; can swallow and breathe pretty freely. Fancies mixture disagrees with him; discontinue it. Let his head be shaved. Continue lotion.

Feb. 1st.—Passed a very restless night. Disease has extended over all face, and is spreading on scalp; eyes shut; pulse 124, weak. Let him have half an ounce of wine in sago gruel every two hours. Eight p. m.—Pulse 130, weak; made three or four attempts to go to stool, but passed nothing satisfactory. Hydrargyrum cum creta, ten grains; aromatic powder, four grains—mix, and give now. Extract of hemlock, extract of henbane, of each four grains; compound spirit of sulphuric ether, half a drachm; syrup of poppies, one drachm; camphor mixture, one ounce—mix, give in one hour, and repeat in four hours if not asleep. Continue wine, beef tea, and warm fatus.

2nd, ten a. m.—Passed another restless night—was delirious. Disease now covers three fourth of scalp; is subsiding on face, with the exception of eyes, which are still closed; pulse 130, weak; subsultus tendinum; tongue dry; the uncomfortable feeling at stomach still continues, and makes occasional efforts to retch. One scruple calcied magnesia, immediately. Increase wine to one ounce every two hours; and let him have a table spoonful of the following mixture, also, every second hour:—Sulphate of quinine, twelve grains; dilute sulphuric acid, fifteen minims; tincture of cardamoms, half an ounce; water two ounces and a half. Mix. Ordered fatus to be discontinued, except to eyelids; and painted scalp with iodine. Seven p. m.—Is much better; has had two or three naps in course of day; retching ceased; two free motions from bowels; pulse 120, of good volume.

3rd, ten a. m.—Did not sleep well, but feels, upon the whole, much better, and is evidently improving; eyes open, and swelling of face diminished; pulse 120;

tongue clean. The disease has now travelled nearly all over scalp. Repeat iodine paint on scalp. Continue mixture and wine.

4th.—Decidedly better; disease has met on scalp, and is not extending in any other direction; pulse 96. Omit quinine; continue wine, &c.

From this date the patient, without any thing worthy of remark, went on improving.

#### REMARKS.

This case is chiefly interesting on account of the disease originating in the throat, as it is not usual for erysipelas to originate in a mucous membrane; in the majority of cases affecting the head, it first shows itself about the ears or cheeks, and thence extends over the face to the scalp, and occasionally over the nostrils and lips to the fauces and pharynx. In the above case, it, on the contrary, first declared itself in the throat, and extended not only through the nose to the face and scalp, but the symptoms also indicated its extension to the larynx and esophagus, which was the chief cause of the patient's distress and imminent danger. I may mention, as another illustration, that erysipelas occasionally originates in mucous membranes, that during the winter of 1842, an epidemic, first affecting the throat, prevailed extensively in many parts of this continent.

The exciting cause was apparently cold, as erysipelas was not epidemic at the time; the most prevailing complaint was a species of catarrh accompanied with sore throat. This appeared for the first few days to be, and probably was the patient's case, but owing to some predisposition, the local inflammation assumed an erysipelatous action, which appeared to me to have propagated itself to one of the patient's children, and to a friend living in the same house.

Opposite plans of treatment have been, and still are advocated by authors of the greatest respectability—depletion by the one, and stimulants and tonics by the other. In the above case, owing to the intensity of the inflammation of the throat and larynx, the treatment was necessarily very active; the patient was twice bled and once leeches, before the disease declared itself on the skin. The effects of such active treatment in erysipelas are worthy of remark. These may be divided into primary or immediate, and secondary or remote effects.

1. The immediate effects of the venesection were most grateful, relieving pain by moderating the inflammation, and the patient stood it well.

2. The secondary effects were not so satisfactory; although moderated in its action, the disease was neither arrested in its progress nor was its duration shortened;

patient became alarmingly weak, as may be perceived by the report of the 29th, "feels weak, says he is sinking—pulse 140, small and fluttering." Considering that diseases of the period were of a sthenic character, bearing in mind his youth, strength, health, and the degree of debility for the quantity of blood in his system, was great, and required the prompt use of stimulants and tonics, which favours the idea, that the constitutional nature of the disease is largely neuropathic. But independent of all theoretical speculations as to the nature of erysipelas, the practical lesson to be learned in the case, is,—that depletion, even when urgently required, requires to be practised in this disease with the greatest caution and due consideration of all the circumstances of the case.

At two periods I considered the patient in danger from opposite causes; overaction and debility. First on the 27th, from the threatening of suffocation, and on the 28th, and two or three subsequent days from debility. I have asked myself would he have escaped the first of these dangers with less depletion, or overcome the latter without a more generous regimen and tonic medicines, and I am disposed to answer in the negative; for, notwithstanding the activity of the treatment, the patient was unable to assume the recumbent posture on account of his breathlessness; on the latter occasion his pulse and feelings indicated the greatest prostration, whilst the disease was still progressing; and had the case been left to nature, at this time, the patient's ultimate recovery would, I think, have been doubtful. From these considerations, my impression, and I think the legitimate inference, is, that when depletion is practised in this disease, it ought to be closely followed by tonic medicines and a generous diet. The local applications employed in erysipelas are numerous. In the phlegmonous form, I have found none soothing, grateful, and effectual, as warm astringent applications, and by no other means have I been able to prevent suppuration of the eyelids in such severe cases as the above, but to be effectual, they must be assiduously applied.

Montreal, March, 1847.

#### CASE OF ULCERATION OF THE COATS OF THE GALL BLADDER.

By JAMES A. SEWELL, M.D., Quebec.

A. B., æt. 50, an habitual drunkard, presented himself for admission into the Hotel Dieu hospital of this city, on August last. He resided at a considerable distance from the hospital (say a mile), and had come there on foot without any apparent inconvenience.

When I first saw him, he was waiting his turn of admission in the ante-room; his appearance being that

of a man who had been ill for some time, but certainly not indicating the fatal termination which was so soon to follow.

Upon inquiry, I found he had been ailing for about three weeks, with more or less pain in the right side, accompanied with occasional vomiting. His illness, however, excited so little alarm among his friends, that, up to the moment of desiring admission into the hospital, no medical assistance had been sought. I directed him to go into the ward, and gave instructions to the nurse to get him into bed; intending to return and prescribe for him after having visited the female department up stairs.

Ten minutes, however, had scarcely elapsed before I was hastily summoned, and found my patient rolling on the floor in an agony of suffering, which he referred to the seat of his old pain; countenance pinched and anxious; pulse at the wrist scarcely to be felt; extremities cold, and the whole surface bathed in a cold clammy sweat: in short, he was dying. He was ordered a mixture of sulphuric ether and laudanum in some warm brandy and water, with hot application to the extremities and epigastrium. The above mixture was repeated in a few minutes, but no reaction came on, and he died in about twenty minutes from the time of my being summoned to him, and about thirty, or a little more, from the period of his admission.

#### Examination of the body 24 hours after Death.

Head not examined; heart and lungs healthy; on opening the abdomen, we were struck with the appearance of the pyloric extremity of the stomach; the upper portion of the duodenum, and the other parts in the immediate neighbourhood of the gall bladder, seemed as though smeared over with bile, and such, upon closer examination, was found to be really the case; for upon raising the liver slightly, a further quantity of this fluid was observed to escape from a small aperture, of about the size of a crow quill, in the under surface of the gall bladder. On the mucous surface of this reservoir was discovered an ulcer of the size of a threepenny bit, in the centre of which was the small opening into the peritoneal cavity, already mentioned.

There were no traces of peritonitis; liver somewhat enlarged, and slightly softened; stomach and bowels healthy.

#### Remarks.

The ulceration here noticed was, in all probability, the result of sub-acute inflammation, of much longer standing than the period from which the deceased dated his illness, giving rise to symptoms at all times obscure, and occasionally (as we may well understand) so slight

in degree as for a long time to escape particular attention.

With regard to the precise moment at which the rupture (and consequent effusion) took place, I conceive it occurred subsequent to his entrance into the ward, and probably while in the act of undressing himself; and moreover, that his speedy dissolution can be alone accounted for by the sudden and violent shock conveyed to the nervous system by the application of so acrid a fluid as bile, to so sensitive a membrane as the peritoneum; more particularly in a subject already enervated by the habitual use of ardent spirits.

I would add, that the speedy death of my patient is somewhat analogous to that which occurs in some cases of severe peritonitis, in which the symptoms during life, as well as the appearances after death, are well marked; the disease running its course to a fatal termination in from eight to twenty-four hours. Still, neither the symptoms *before*, nor the morbid appearances *after* death, can satisfactorily account for this rapid progress of the disease, except upon the supposition offered above.

Quebec, January, 1847.

*To the Editor of the British American Journal.*

SIR,—A friend has this moment placed in my hands the March number of your valuable Journal of Medical and Physical Science. In it I notice some critical remarks (as they are rather amusingly and pompously termed) on my labours as Chemist to the Provincial Geological Survey, by H. Croft, Esq., Professor of Chemistry, King's College, Toronto.

As Mr. Croft is not satisfied with making some very petulant and silly allusions to his loss of reputation, and to my capacity as a chemist, but has also questioned, in his peculiar style, the accuracy of my *qualitative* analysis of the Tuscarora spring, it will become necessary for me to reply to his strictures, and to offer a few observations upon his attempts, as exhibited in the columns of your journal in its numbers of June and August, 1846, and in the last. I trust you will permit me to avail myself of your columns for that purpose. Unavoidable absence from town, and a variety of pressing occupations, will prevent my preparing anything for April; I am therefore reluctantly compelled to postpone my remarks until your May number. In the meantime, I would remind Mr. Croft, (an important truth which he seems entirely to have forgotten), that a contemptuous mode of expression is no proof either of capacity or attainments; and, moreover, that his attempts to show what ingredients are *not* to be found in

the Tuscarora water, may simply illustrate the fact that under the most favourable auspices, he is of himself, Mr. Croft, Professor of Chemistry, King's College, Toronto, incapable of determining the elements of which it is composed. His efforts pretty plainly demonstrate this incapacity, when he is unassisted by others.—I remain &c.,

E. T. DE ROTTERMUND.

Montreal, 15th March, 1847.

I. *Lecture Introductory to the course on the Theory and Practice of Medicine, in the Medical Department of Pennsylvania College, Session 1846, '47.* By W. DARRACK, M.D. Philadelphia, 1846.

II. *An Introductory Lecture, delivered before the Class of the Baltimore College of Dental Surgery, at the Session of 1846-'47.* By A. WESTCOTT, A.M.M.D. Professor of Operative and Mechanical Dentistry, etc. etc. Baltimore, 1846.

I. An introductory lecture is scarcely expected to exhibit a rigorous demonstration of any specific part of the lecturer's department of science. It is usually made the occasion of representing the advantages or the necessity of the study to be entered upon, in such a manner as to awaken the interest of the student; or it points out the mode of investigation proper to the subject in hand, indicating the sources whence the best information may be derived, and furnishing to the student those hints and cautions which the wary investigator has found by *experience* so necessary against precipitate and erroneous conclusions. There is nothing of this description of object in Dr. Darrack's introductory lecture. He has, unwisely, we think, abandoned this ordinary track, which had certainly been one more profitable to his students; and, let us add, not without its advantage to himself.

The professional teacher has a graver duty, and ought to have an aim of a higher order than the popular lecturer; and, at any rate, is bound to set an example of conclusive reasoning, and of judicious selection of subjects of investigation—requirements of which the present lecture gives no evidence.

"Gentlemen," says Dr. Darrack, "the topic which I have been induced to select as an introductory lecture is life." "Life! this is my topic. It is, I am sufficiently aware, a trite, mooted, vexed subject. Nevertheless, I venture to call attention to it." It is invariably an excellent proof of a sound mind to make choice of a subject to the elucidation of which it can bring the requisite qualifications and powers;

"Sumite materiam vestrie, qui scribitis, æquam Viribus;"

and it is no less an evidence of a genius of the highest

order to grapple manfully with a subject that has posed the intellectual powers of all that have gone before him, provided his success be demonstrable, and his claim to the honours of a triumph be made good; these honours would have been won had the success of so great a genius been a little greater than his modesty.

The reasons which the Dr. assigns for selecting the "topic" of life! are, "First, because a teacher of the theory and practice of physic is expected to deliver his doctrine on it." This is surely an unreasonable expectation. Notwithstanding, if a teacher resolve to deliver *his* doctrine, he requires to prove it to be better substantiated than the doctrine of others. "Second, because writers on vitality have either reasoned without experience or without revelation." No better cause could surely be adduced for the exercise of such humanity as Dr. Darrack's: no case of more deplorable need could be made out, for the flood of light which is now to descend upon us! Writers on vitality have reasoned without experience of—of what? Of vitality, of course. Will this gentleman be kind enough to tell, in a point so mysterious, how they could reason on any subject without experience of vitality? Creatures that have no experience of vitality, we have been wont to suppose, never reason at all. Perhaps the Dr. has employed the wrong term, for he is not particular about language in the argumentative part of his lecture, however studious of it in the pathetic department. If he means *observation*, then his second inducement to lecture on the "topic" of life, is equivalent to this; "Because writers on vitality have reasoned without any data, without shadow of a peg to hang an argument upon." Perfect fools! *that* they were. "Or they reasoned without revelation," says Dr. D. Again we must express, with humility, our desire of being instructed. Was not the revelation to which he refers us given at a very early date? in the days of Moses? Supposing his meaning to be *without respect to revelation*, he ought to have said so, or to have written, as a writer on vitality requires to do, with accuracy and clearness; and might have added a little piece of information, to the effect, that many of the best writers on vitality have shown due regard to the light of revelation.

Dr. Darrack proceeds to develop the mystery of life.

"My three propositions," says the doctor, "are the following:—

First,—Life is that principle in us by which we are enabled to resist the destructive inorganic powers.

Second,—Life is organism.

Third,—Life presents itself in three forms, vegetable, animal, and man."

From an enumeration from Schœnlein of those des-

tructive inorganic powers, though without casting any new light on their specific action upon the vital functions, the doctor supposes we have got "new insight into the silent workings in the microcosm of vital forms, and discover the fact that life is that mysterious (so he describes it) energy by which we act protectively, defensively, and continually against the countless aggressive and injurious forces of the universe." In point of fact we receive from the doctor's elucidation of his proposition no "new light into the silent workings in the microcosm of vital forms," far less are we enlightened with any new knowledge of the nature of the vital principle or that "mysterious energy" which actuates the vital functions. The illustration of his proposition has cleared the way for the reception of this important truth, that life is that principle by which we live in opposition to the objects that would cause us to die—a truth that cannot certainly lay claim to much originality, and one which previous writers on vitality possibly have elaborated by such experience or powers of observation as they happened to be in possession of; for it is a cruel idea, and what their bodiless shades might be justified in resenting, to expect that they could reason without some experience of vitality.

"Second,—Life is organism," says the doctor.

In this his second proposition, he boldly faces the question—what is life? He gives us the intimation that he will astonish us by the novelty of his way of achieving a victory. "The answer which I will give to this question—what is organization?—will doubtless have the appearance of novelty, and *properly on this account*, and also that it has not the palpable reality which an unqualified advocacy of Locke and Bacon may be supposed by some to demand, will not be so readily received; nevertheless it is as ancient as revelation." This is very ingeniously conceived, and if it only tell, it cannot fail to prove a very palpable and admirable hit. No mortal man can stand before this. Of all the destructive inorganic powers we are acquainted with, this is the best calculated of all to smash the life out of all the pseudo-philosophers that have reasoned on vitality without the experience of it. "Men," says Dr. Darrack, "are shaped according to their sentient organism." If this be the case, they are perhaps able to run—a circumstance that will prove singularly fortunate to those who have any confidence in the rules of Locke and Bacon, when they feel the shock of the doctor's onset.

"What is organization?" he asks. I answer, it is the union of matter and breath of life—a connate union. This is the doctrine of Thorburn, and which I adopt to the exclusion of all others. Receive it, and we will perceive more manifestly the prevalent errors on this subject."

He says it is Thorburn's doctrine. We are sorry for this, because as Thorburn is a different organism from Darrack, the doctrine is not so astonishingly new; and it is a circumstance, however trifling, that invalidates one of the doctor's inducements to treat upon the topic of life, inasmuch as there has been at least one person who wrote on vitality with some experience, or with revelation.

He proceeds to observe:—"We will be convinced that organization is not, as has been vainly imagined by the vitalists, the effects of a pre-supposed undemonstrated vital principle, nor as taught on the other hand by the materialist, the result of an inherent power of material atoms to come together, in definite proportions, &c. &c. Organization is none of these; but on the contrary, as a neutral salt, is the result of a commingling of an acid and an alkali; so organization is the *tertium quid* which results from the connexion of matter and breath of life."

The remarkable thing in this enumeration of repudiated hypotheses, is the doctor's denial that organization is the effect of a pre-supposed undemonstrated vital principle. "We will be *convinced* that it is not," he says; "it is a vain imagination of the vitalist," as he describes; and then the luminous conclusion is at last made known to us, that organization is "the *tertium quid* which results from the connexion of matter and breath of life," i. e., which results from the connexion of matter and a principle *not pre-supposed, and a demonstrated principle*. It is then a discovery of the doctor's that organization results from the connexion of matter and a principle not pre-supposed, not assumed nor taken for granted, but one which has of course been rigorously demonstrated. Now, this is by far the most memorable thing to be found in this lecture. The vital principle—the pre-supposition of which he so scornfully rejects—the undemonstrated character of which he sets aside with sublime devotion to scientific accuracy, is pre-supposed, is taken for granted, and that even without the attempt to demonstrate it. So far from demonstrating the principle of vitality, Dr. D. is not sure of the mere signification of the terms in which he describes it. After quoting the passage: "He breathed into his nostrils the breath of life, and man became a *living being*," he observes, with some modesty, that "in *some oriental* sense, the breath of life is the breath of the Creator, and that according to the best critics, as he is well informed, the import of the expression is the animating principle which renders the inert mass instinct with animated existence,"—a conclusion, the novelty of which is so great that it has been held by all who since the days of Moses have had experience of vitality, but demonstrated by none—not even by Dr. Darrack himself.

Dr. D. defines what organization is—he defines what organism is—he defines what stimuli are, and confounds *them*, as we shall perceive, with susceptibility; but as for the principle of vitality or breath of life, or breath of the Creator, there is some "proper oriental sense in this"—the sense of which is, that the principle of vitality is the principle of vitality, the breath of life is the breath of life, and the sum total of the originality of this discovery of "a demonstrated principle" is this, that the breath of life is derived from God. Now this has always been, and still is, we may say, almost universally the common belief of men, who wisely pre-suppose it without demonstration, and the only difference between them and Dr. D. is found in the circumstance of their *not pretending to demonstrate* it.

We are repeatedly informed that organism is the result of organization acted upon by stimuli—"An organism is an organization in action by stimuli. It is the result of stimulated organization." And then we have diagram 3, which is given as a sort of pictorial demonstration of "the subject of organism." It is stated in the diagram, that organization (germ or ovum) is the product of dust (inorganic matter), and of breath of life (vitality)—then, that organism is the product of "organization" and of "susceptibility—acted upon by stimuli, and reacted against by the egoistical principle." He has now changed his views upon the subject, and we have an organism, the product, not of organization and stimuli, but of organization and susceptibility, acted upon and reacted against. But, as Dr. D. very properly observes, susceptibility is a necessary endowment of every organization, and therefore may be properly called a property of organization, the statement is equivalent to this, that organism is the product of organization and one of its properties, i. e., it is the result of organization. He sees in the diagram that it will not argue to say, (what he had often said before,) that organization and stimuli produce organism—it is now, organization and susceptibility, one of its properties; in other words, that organization and vitality produce organism. The whole demonstration, then, resolves itself into this—dust and vitality produce organization, and organization with vitality produce organism. Hence, instead of being "convinced, as Dr. D. says, that organization is not, as has been vainly imagined by the vitalists, the effects of a pre-supposed and undemonstrated vital principle," we are convinced that it *IS*; and, in point of fact, this is the conviction of the Dr. himself, if he understand his own language and do not "vainly imagine" he has demonstrated any thing at variance with it.



Thus far have we followed Dr. Darrack in his introductory lecture, and have exhibited the fallacy of his reasoning. The psychological and physiological part of his argument, we have neither space, nor leisure, nor inclination, to examine, further than to observe with reference to the latter, than in adopting the cellular development of organized tissue, his lecture on this head is strictly consonant with the present generally received theory. We may, however, remark, that a dissertation on Hebrew etymologies, however much it may serve to acquire for the lecturer the appearance of deep learning and research, ought to have constituted no part whatever of his subject; and as it can afford no useful information whatever to the student, would have been better "honoured in the breach than in the observance."

We hope that Dr. Darrack will receive our criticism in good part, and on the next occasion, when welcoming his class, in the names of the illustrious dead, (who, therefore, must have had some "experience of vitality," and who, during that experience, contributed, and that not meanly; to establish the character of the city in which he dwells, as a seat of medical learning) and of the several medical institutions of that city, he will remember, that in a hyperborean city there exists a university, whose name he is also at liberty to employ for the purposes of his general invocation, and we venture the prediction, that not only will the efficacy of the charm be thereby enhanced, but the effects of such an incantation will be talismanic in the extreme.

II. The subject proposed for consideration in the lecture of Professor Westcott, is, *do dental colleges possess peculiar advantages over any other means of receiving a dental education?* and in the discussion of the question, the lecturer has done ample justice to it. We certainly believe, that the diseases incident to the teeth, their causes and their treatment, have ever received too cursory and slight a notice at the hands of the teachers of surgery in universities and schools generally; and the general course of education, which would fit students for the practice of medicine and surgery in their present objects, is by no means that adapted for rendering them accomplished dentists. This subject is too special in its nature and its objects, and although perhaps equally so with that of ophthalmic and aural surgery, has unquestionably not received that attention which has been bestowed upon the two latter. This want has been supplied by the establishment of an institution special to this end; of which Dr. Westcott is, if we may be permitted to judge from the lecture before us, as well as from his contributions to the pages of the *American Journal of Dental Science*, one of its brightest orna-

ments, and eminently well qualified to discharge his important duties, with honour to himself, and advantage to his pupils.

The objects of dental surgery are comprised in the following definition:

What is the field allotted to the dental surgeon?

The term dental surgery does not, if construed literally, convey an adequate idea of what is, by common consent, included under it. Although this term is descriptive of the chief business of the dentist, and gives his department "a local habitation and a name," yet it by no means embraces the entire field of his inquiries, or even his operations. While it is the business of the dental surgeon to inquire into and treat the disease of a specific class of organs, it is also no less his duty to ascertain, if possible, the *cause* of such disease, its connection with other parts, and whether his remedies are to be applied directly, or whether they are not to be directed to the overcoming of some latent difficulty, antecedent to the most prominent disease. In other words, his province and duty is not merely to treat these organs as though they were isolated portions of the system, but as parts of the general system, governed, in many particulars, by the same laws, influencing and being influenced by every other organ.

Hence, his inquiry should be directed to the investigation of every influence which can be supposed to have a bearing upon the diseases of this specific class of organs.

His duty stops not here. It is not only his business to weigh the influence which other organs may exert upon the teeth, but he is also to investigate how far the diseases to which the teeth and mouth are subject, may, in turn, derange the other portions of the system. His field, then, is by no means a contracted one. The dental student is not only to study these particular organs, their immediate connections, their specific diseases, and their peculiarities; but if the view I have taken be a correct one, he should become acquainted with the laws of the entire system, together with those of each organ, their mutual connections and dependencies.

The dependence of dental surgery on anatomy, chemistry, practice of medicine and pathology, surgery and physiology, is exhibited and dwelt upon at length, and the particular modes in which these sciences are rendered tributary to the perfection of the character of the dental surgeon, are fully explained. The lecture is an admirably written one, and will amply repay perusal. We cannot better conclude this short notice, than by quoting the two last paragraphs, and in the aspiration fervently expressed at the conclusion, we sincerely join.

"This experiment has not only been successful in itself considered, but it has become the corner stone of a new and more enlightened policy, both in regard to the public and the profession."

Let us see to it that we lose not this vantage ground. If we do this by making our facilities for imparting instruction fully commensurate with the demand, by making our diploma exclusively the reward of merit, it will require no enthusiasm to induce a strong confidence that the students sent abroad from this institution will practice their profession with honour and profit to themselves, with benefit to their patrons, with credit to us; and that they will prove efficient living witnesses of the feasibility and great public utility of dental colleges. In proportion as such practitioners become the occupants of the various fields, will empiricism and imposture be supplanted by science—bombastic pretensions by modest merit—and public suspicion by a just confidence in the meliorating powers of science—the blind avidity for secret and patented nostrums, by a just respect for, and an intelligent appreciation of, those resources of science and art, which in the hand of the enlightened and honest professional man, are the only legitimate agents for meliorating the sufferings incident to hu-

manity. May the time soon arrive when men, deeply imbued with the love of science, and skilled in its application to dental surgery, may be so thickly scattered throughout the length and breadth of our land as that their mutual and combined light shall leave no spot of darkness to shield from full public recognition the devices of the dental empiric.

## ANATOMY AND PHYSIOLOGY.

### ON THE NATURE & SOURCES OF THE CONTENTS OF THE FŒTAL STOMACH.

*Being the substance of a Paper communicated to the Royal Society of London, in June last.*

By GEORGE ROBINSON, M. D., Fellow of the Royal Medical and Chirurgical Society of London, and Joint Lecturer on Materia Medica and Forensic Medicine in the Newcastle-on Tyne Medical School.

Whilst all physiologists who have examined the appearances presented by the alimentary canal of the fœtus, agree in representing the *small intestines* as actively engaged in the function of digestion, a remarkable difference of opinion has prevailed as to the source of the nutritious matter there submitted to that process. Harvey, who, of modern physiologists, alone supposes it to enter the intestine through the stomach, adopts the views of the older writers, and concludes, from his observations, that it is the liquor amnii swallowed by the fœtus, which affords the material for chylicification. Geoffroy Saint-Hilaire, perceiving the anatomical objection to this doctrine, which arises from the fact of similar appearances having been found in the intestinal canal of fœtuses born with an imperforate œsophagus, would seem to suppose that the superior portion of the intestines, being irritated by its contact with the bile, secretes a nutritive mucus, by the digestion of which chyle is formed. And Dr. Robert Lee, who is, I believe, the most recent investigator of this subject, has been led by his researches to the conclusion that the liver is the source of the nutritious fluid found in the alimentary canal of the fœtus; the function of that gland being, in his opinion, not merely that of separating from the blood an excrementitious substance, but also that of pouring into the fœtal intestines, through the hepatic duct, a quantity of albuminous fluid.

Now, even though a quantity of albumen may be present in the bile taken from the hepatic duct, it is surely desirable that the impossibility of the nutritive contents of the small intestine having been derived from the fœtal stomach should be clearly demonstrated, before we admit the correctness of this latter conclusion as to their source. But it will be seen by a reference both to systematic writers, and to the authors who have more expressly treated of the fœtal functions; that the evidence yet advanced is by no means sufficient to establish any positive opinion on this point.

Dr. Lee thus describes the result of his own examination of the stomach in several human fœtuses. "The stomach of the fœtus I usually found in these cases distended with a semi-transparent, ropy, mucous, and occasionally acescent fluid without any sensible admixture of albuminous or other apparently nutritious matter." Dr. Blundell, whose opinions on any point connected with the uterine or fœtal functions I consider to be worthy of every attention, has but the following brief allusion to the subject. "The stomach of the fœtus is not unfrequently empty, or nearly so; and when it does contain anything, if I may judge from some two or three observations, this matter consists of a mucous secretion mixed with the gastric juice." And in the systematic works on physiology, I do not perceive any mention of the subject further than an incidental statement that the fœtal stomach contains a mucous fluid. The time which I could myself devote to this inquiry, and my opportunities

for conducting it, have been too limited to enable me to attempt anything like a full and final settlement of the various questions connected with this department of fœtal physiology. The few facts which have fallen under my notice are, however, sufficiently distinct to establish some positive inferences, and I can only hope that the results of this rude effort may induce others better qualified for the investigation to extend and complete our knowledge of this interesting group of functions.

My attention was first attracted to the subject in the autumn of last year, by an accidental observation of the stomach of a fœtal rabbit, and I having subsequently examined the fœtuses of other animals, I met with a number of curious facts, of which the following is a brief account.

*Observation 1.* During the last ten days of its uterine existence, the stomach of the fœtal rabbit is invariably distended with a semi-transparent fluid, of a dark green colour, extremely viscid, and coagulated by heat into a solid opaque mass. Viewed microscopically, it is found to consist of a clear liquid, suspended in which are numerous cells of different shapes, and several large globules of oil. When heated in a watch glass over a spirit lamp, it assumes the appearance of a piece of baked custard; and on dropping it into boiling water, it also instantly solidifies. Dried by a more gentle heat, it forms a brittle substance like gum, which on being dissolved in water, answers to every test of Albumen. A small quantity of the fresh liquid which had been excluded from the air in a test tube, on being examined at the end of six months, though it had acquired a disagreeable odour, was found to retain all its chemical properties, coagulating as readily as when recently obtained. The stomach was in these cases extremely pale, and presented very little vascularity; whereas the small intestines were plentifully supplied with blood-vessels. The chymous substance which the latter contained, was evidently derived from the stomach, becoming however more opaque, as it gradually assumed the situation of the meconium. This latter substance, of a bright green colour, exhibited a curious reaction with strong nitric acid, the addition of a few drops of the latter instantly causing it to assume a bright scarlet hue.

In three instances, a liquid, precisely resembling that contained in the stomach, escaped from the mouth of the animal as it lay on its side before being opened; and in two other cases, the same substance was found in the œsophagus. The liquor amnii of these animals is a transparent, almost colourless fluid, exhibiting scarcely any indication of the presence of albumen. In two instances where I had an opportunity of watching the fœtus through the transparent membranes, it was observed to swallow the liquor amnii, and from its continuing to perform the act of deglutition after its removal from the uterus, the stomach was found extremely distended with air, each mouthful of which appearing as a little vesicle, was preserved distinct by the viscosity of the stomachic fluid. The facts detailed in this observation are drawn from the examination of more than thirty animals.

*Observation 2.* The uterus of a rabbit, killed about the tenth day after impregnation, contained six fœtuses, an inch and a half in length, and the tissues of which were still very gelatinous. Through the transparent walls of the abdomen the dark globular stomach of each was distinctly visible, and on opening the peritoneal cavity, it constituted with the exception of the liver, the most prominent object presented to the eye, being in every case distended with a liquid of a dark green colour. This fluid was perfectly transparent, presented no microscopical object, was not at all viscid, and did not undergo any change on the application of heat or nitric acid.

The intestines were in these animals extremely minute and tortuous, translucent, and almost void of meconium, or any other coloured substance. The quantity of liquor amnii

was greater than that met with in the former observations, and its opacity, on the application of the tests for albumen, if anything more distinct.

**Observation 3.** In a fœtal lamb examined at a very early period (for its weight did not exceed two ounces,) the stomach contained two drachms of a clear, citron-coloured liquid, which was neither viscid, nor did it present any opacity or change on the application of heat and nitric acid. The quantity of liquor amnii was relatively large; six ounces of it were collected, and in its colour, consistence, and chemical properties, it precisely resembled the fluid obtained from the fœtal stomach. The intestines were very minute and tortuous, and with the exception of a small quantity of serous fluid apparently empty.

**Observation 4.** In another fœtal lamb which was fully developed and ready for birth, the stomach, on being opened, presented a substance differing very much from the liquid just described. It contained an ounce of a viscid, transparent semi-fluid mass, suspended in which and gradually subsiding in it, so as to form a sediment, were numerous minute, oval, brown particles, in shape and colour very much resembling grains of lintseed, but somewhat larger, and around each of them was a quantity of an extremely tenacious, gelatinous substance of a yellow colour. Neither the supernatant liquid nor the liquor amnii evinced the presence of albumen, though both possessed considerable viscosity. A substance precisely similar to the yellow gelatinous sediment found within the stomach, existed in considerable quantities upon the fleece, the legs, and the whole exterior of the animal; but on the most careful examination I could not detect in any other part of the fœtal structures or appendages, a single particle corresponding to the brown oval masses met with in the stomach.

The intestines, in addition to some meconium, contained a chymous mass, the liquid portion of which was distinctly albuminous.

**Observation 5.** The liquor amnii of a fœtal calf, (which was examined at a very early period, when its body weighed only nine ounces) was of a citron colour, neither viscid nor coagulable by heat or nitric acid, but instantly formed an opaque membranous coagulum on the addition of a little acetate of lead, or proto-nitrate of mercury. The stomach of the same animal contained two drachms of a fluid, which in every respect resembled the liquor amnii, and which, on standing, did not present any sediment or coloured flocculi. In the intestine was a small quantity of meconium, which, on being heated with nitric acid, exhibited the usual change of colour, from a green to a reddish hue.

**Observation 6.** In another fœtal calf of considerable size, (presumed to be in the ninth month of uterine existence, and which was examined twelve hours after death,) the stomach contained four ounces of a yellow glairy fluid, in which, as it lay in the stomachic cavity, were suspended three or four fibrinous masses of a dark, brown colour. On allowing these matters to stand for some hours in a cylindrical glass vessel, the quantity of the coagulum or sediment was very much increased, so that its bulk ultimately became equal to the tenth part of that of the supernatant liquid. This latter was slightly opaque from the presence in it of innumerable minute globules, resembling those formed during the coagulation of albumen, and though extremely viscid, it furnished no coagulum on the application of heat and nitric acid singly and in conjunction, the only effect produced being the gradual formation of a pellicle on its surface as the liquor evaporated. Of a few other tests which were applied, sulphuric and muriatic acids caused no change whatever in the appearance of the fluid; ferro-cyanide of potassium, assisted with acetic acid, tincture of galls, sulphate of copper and alum, slightly increased its opacity, and the addition of a drop of solution of acetate of lead or proto-nitrate of mercury, was instantly

followed by the appearance of an opaque membranous coagulum.

Imbedded in the coagulum or sediment, which was of a reddish brown colour and semi-transparent, were several thin yellow scales, perfectly opaque, and insoluble in boiling liquor potassæ, whereas the remainder of the fibrinous mass readily dissolved in that liquid. From the clear solution thus obtained, copious flakes were produced on its neutralization by muriatic acid.

In the mouth of this animal was found some glairy fluid, very similar to that met with in the stomach; and lying on the outer surface of the gums, particularly those of the lower jaw, were several of the peculiar yellow flakes just described.

The liquor amnii was clear, almost colourless, and, though somewhat viscid, did not with the usual tests afford any indication of albumen, being coagulated only by acetate of lead and proto-nitrate of mercury. *It contained none of the matters which constituted the coagula found in the stomachic fluid.\**

**Observation 7.** The stomach of two newly born kittens contained a brown semi-transparent, viscid substance, which, on the application of heat or nitric acid, evinced the presence in it of a considerable quantity of albumen, but did not wholly coagulate. The portion which retained its transparency did not, however, manifest any disposition to dissolve in the boiling water. The contents of the small intestine were also albuminous.

In the œsophagus and fauces of one of these animals was found some of the same brown, viscid, semi-albuminous substances; and it may also be worthy of mention, that the quantity present in the stomach of this animal (which had lived a few hours after birth) was much less than in the other case.

**Observation 8.** In each of two puppies, drowned immediately after birth, the stomach contained about half an ounce of a transparent slightly viscid fluid, suspended in which were several large flakes of a light yellow or lemon colour, each flake being surrounded by an extremely tenacious gelatinous substance. On testing the clear supernatant liquid, it was found to be distinctly albuminous, an opaque stratum of coagula being deposited on the application of heat and nitric acid. A portion of one of the flakes and the adjacent mucus being examined under a high magnifying power, presented, in addition to epithelial scales and some oil globules, several minute particles of different shapes, a few appearing as perfect circles or rings, others of a crescentic form, and the remainder as rhomboidal and linear particles.

**Observation 9.** The stomach of a human fœtus of about the fifth month, examined thirty hours after birth, was found moderately distended. On laying it open, a reddish coloured fluid escaped, and this was followed by three or four semi-transparent gelatinous masses. The largest of these was then placed in a watch-glass containing distilled water, and heat applied. As the temperature of the water approached the boiling point, numerous flakes were seen to radiate from the floating body; and as the process of ebullition proceeded, this latter became throughout its whole substance, firm and opaque, so as to constitute a firm coagulum. Another mass was treated with nitric acid, and wherever the latter came in contact with it, an instantaneous coagulation took place.

\* A quantity of the peculiar milky fluid, secreted by the spongy structures which receive the highly vascular fœtal cotyledons, and collected from them by pressure, on being heated, instantly coagulated into a firm mass. With the single exception of its colour being rather that of cream, than a distinct yellow, this substance precisely resembled the coagulum obtained by heating the contents of the stomach, of the mature fœtal rabbit. And in its chemical and nutritive properties this secretion presents a striking analogy to the colostrum furnished to the animal immediately after birth. The secretion of these structures was, in the mature fœtal lamb, also found to possess a similar property.

The contents of the small intestines were arranged in separate portions, in the order of their proximity to the stomach; and the liquid pervading them, on the addition of the same test, also evinced the presence of albumen, the relative quantity of this principle gradually decreasing as the chymous mass assumed the properties of meconium. My friend Dr. Glover was present at this observation, and kindly assisted me in its performance.

*Observation 10.* The stomach of an infant, supposed to have died immediately after birth, but which was not examined till about forty hours afterwards, contained half an ounce of a remarkably viscid, reddish, semifluid substance, for the most part transparent, but presenting in its interior and on its surface, several opaque white striæ. On boiling a portion in distilled water, it became uniformly opaque, but did not acquire much additional firmness. Heated with strong nitric acid, a clear solution was obtained, from which, on its neutralization by liquor ammoniæ, a copious flaky deposit took place; and the same circumstance occurred with an alkaline solution, when rendered neutral by the addition of nitric acid. The white striæ were of a fatty nature, as evinced both by their chemical properties and microscopical appearance, being chiefly constituted of fat cells. A transparent viscid substance contained epithelial scales, oval nucleated cells, and a diffused granular matter. This substance could be traced into the duodenum, where it gradually became more opaque, and evidently constituted the material for chymification.

From all these facts, we may, I think, draw the following general conclusions:—

1. That the stomach of the fœtus, during the latter period of its uterine existence, invariably contains a peculiar substance, differing from the liquor amnii, and generally of a nutritious nature.
2. That in its physical and chemical properties, this substance varies very much in different animals, being in no two species precisely similar.
3. That in each fœtal animal the contents of the stomach vary much at different periods; in the earlier stages of its development, consisting chiefly of liquor amnii, to which the other peculiar matters are gradually added.
4. That the liquor amnii, continues to be swallowed by the fœtus up to the time of birth; and consequently after the formation of those matters, and their appearance in the stomach.
5. That the mixture of this more solid and nutritious substance with the liquor amnii constitutes the material submitted to the process of chymification in the fœtal intestines.

The opinion that the fœtal chyle is principally formed from these matters, however, by no means implies a supposition that the *nutrition* of the fœtus is thus accomplished. For the actions which proceed in the chylipoietic viscera of the fœtus are, I imagine, chiefly useful from their gradually preparing the different organs for the important functions assigned to them in the economy of the mature animal. Whereas the nutrition of the fœtus is undoubtedly effected by its placental vessels, the venous capillaries of which (or to speak more correctly, the streams traversing them) possess an absorbing power precisely similar to that of the mesenteric veins. And as a portion of the fœtal blood, charged with the albuminous substance there absorbed, after passing through the umbilical vein, circulates in the blood-vessels of the liver, the presence of an albuminous fluid in the hepatic duct, as noticed by Drs. Lee and Proutt, is by no means inexplicable. Viewed in this light, the umbilical vein of the fœtus will answer to the mesenteric veins of the adult, while the ramifications of the hepatic duct, in addition to their ordinary functions, may be considered as to a certain extent representing the lacteals.

The source of the peculiar substances found in the stomach of the fœtus still, however, remains to be determined. That

they are not secreted by the stomach itself is, I think, rendered almost certain, by the uniform pale, undeveloped condition of that viscus during fœtal life, and by the circumstance of their being occasionally met with in the fauces and mouth of the animal, as in observations 1, 6, and 7. And coupling this latter fact with the negative argument constituted by the impossibility of assigning their productions to any other organs, I am disposed to regard them as the secretion of the *salivary glands*, between the development of which and the gradual formation of these matters a certain degree of connection has appeared to me to exist.

Having thus briefly mentioned the facts met with in the course of this investigation, and indicated the conclusions which appeared to me to flow most directly from the consideration of those phenomena. I shall for the present abstain from any further inquiries into this department of physiology. But, before concluding this communication, I may be permitted to relate one or two additional observations, which tend to establish an interesting and important relation between two of the chief functions in the animal economy, viz. respiration and digestion.

I have before had occasion to corroborate, from my own observation, the statements of other inquirers as to the slight vascularity and torpid condition of the stomach during fœtal life. It became, therefore, an interesting problem to trace the gradual development of its digestive power, and to ascertain the precise period at which the effect of this power became perceptible.

The contents of the fœtal stomach were, in several of the foregoing observations, tested by litmus paper with very different results, the gastric fluid being in some cases neutral, sometimes alkaline, and in a few instances feebly acid. As the tissues and fluids of the fœtus, however, always manifest a strong tendency to acedent decomposition, and as the indication of acidity was generally noticed in cases where some delay had taken place in the examination of the gastric contents, I am not prepared to deny the possibility of this acedescence having been the result of chemical changes taking place after death. A far more satisfactory test of the presence of the proper gastric juice, and consequently of the commencement of its diestive function by the stomach, was, I thought, to be found in the chemical action of that secretion upon albuminous fluids. And, as a liquid readily coagulating upon the application of all the common tests for albumen exists naturally in the stomach of the mature fœtal rabbit, a few observations upon these animals, performed at different periods after birth, promised to throw some light on the subject.

*Observation 11.* Two rabbits from the same litter were examined at the end of thirty hours after birth. In one (which from the appearance of the lungs had evidently respired, but which was found dead within a few hours after the presumed time of birth,) the stomach, both as regards its vascularity and the nature of its contents, precisely resembled that of the advanced fœtus of the same species. Its coats were pale, and the blood-vessels distributed through them scarcely perceptible; while the substance within exhibited all its usual properties, being the same green, transparent, viscid, semi-fluid, coagulable mass as that invariably met with in the mature fœtus.

But the stomach and its contents in the other rabbit (which, though separated from the doe, had lived up to the moment of examination) presented a very different appearance. Its coats were beautifully injected with innumerable blood-vessels, and their thickness was apparently increased; whilst in its interior was a large flattened coagulum of a greenish-yellow colour, possessed of considerable tenacity, and exhibiting in its substance, when viewed microscopically, several oil globules, similar to those noticed in the uncoagulated matter.

Nothing could be more striking than the difference between

these two stomachs; and, from a single positive observation like this, we are, I think, justified in concluding, that the formation of the gastric juice does not take place till the act of respiration has proceeded for a certain length of time, and rendered the oxygenation of the blood tolerably complete. In two other rabbits, killed at the end of twenty-four hours after birth, the albuminous contents of the stomach were similarly coagulated, its coats being highly vascular, and a portion of the same green coagula being found in the duodenum. All these animals were removed from the doe before any milk could have been swallowed. In the following observation the young animal was allowed to feed with the rest.

**Observation 12.** A young rabbit being killed the third day after birth, was instantly examined. The coats of the stomach, which was very much distended with food, were highly vascular, so as to assume a rosy tint. It contained a great mass of coagulated milk, in the midst of which, and rendered conspicuous by the snow-white ground on which they were placed, appeared two half-digested coagula, of a dark greenish-brown colour. These were evidently the remains of the foetal secretion; and, in the duodenum of the same animal, at the distance of two inches from the stomach, were several small acicular particles of a fatty nature.—*London and Ed. Monthly Journ. Med. Science.*

## PRACTICE OF MEDICINE AND PATHOLOGY.

### CASE OF ISCHURIA RENALIS, IN A MULATTO;

IN WHICH THE SECRETION OF URINE WAS SUSPENDED ENTIRELY, FOR SEVERAL DAYS—RECOVERY OF THE PATIENT.

The following remarkable case of this most dangerous disease occurred in our practice several years ago, and is presented with a view of showing to what extent the malady may progress and yet terminate favourably. The patient, a mulatto girl, about eighteen years of age, was visited for the first time, on the 11th day of Nov. 1843. She complained of pain in the head and back, and constipated bowels; her pulse was full and strong, and the temperature of the skin very much increased. She was bled to the amount of twelve or fourteen ounces, and an active cathartic ordered. For the two subsequent days she was entirely free from any symptoms of disease, but on the third she complained of vertigo and excessive pain in the lumbar region, and for the first time disclosed the scanty secretion of urine, not more than a half-gill being secreted in the twenty-four hours. Towards evening the sensorium seemed affected; the patient being drowsy evinced an indisposition to exertion of any kind; the eyes yellow and suffused; pulse slow and full; with a slight tendency to stiffness in the limbs. The catheter was introduced into the bladder, but no urine was discharged. The symptoms indicating the abstraction of blood, eighteen ounces were drawn from the arm, a mercurial cathartic administered, and a blister applied to the lumbar region. From this date, the 14th. until the 24th, not a drop of urine passed from the bladder, although the catheter was introduced daily. During the whole of this time, the sensorium was more or less affected; the patient at one period was delirious, and again apparently comatose. On the 16th, she was attacked with stiffness of the limbs, which increased until the fore-arm became flexed, the fingers closed on the palms, and the legs spasmodically extended, when the paroxysm would gradually disappear after a continuance of some two hours. The paroxysms recurred at irregular intervals for about three weeks, several days after the secretion of urine was restored. During a paroxysm, the whole muscular system seemed to be affected—the face flushed—the pulse full and hard—the skin hot and bathed in profuse perspiration; but towards its termination, an opposite state of things would prevail, and the patient awake up, completely prostrated in mind and body. The high state of excitement under which she laboured, induced me to resort to venesection, the warm bath, &c., but without effect; in fact, all remedies used appeared rather to increase than diminish the violence of a

paroxysm. At last, an unusually severe paroxysm having occurred on the 24th, recourse was had to an enema of tobacco, made by infusing two drachms of tobacco in a pint of boiling water. In a very few minutes after its administration the patient became intensely sick, and made violent efforts to vomit, while the rigidity of the muscular system speedily disappeared. It became necessary to repeat the injection daily as long as the spasms continued. Immediately after the close of the paroxysm on the morning of the 24th, the patient complained of fulness in the supra-pubic region; the catheter was introduced into the bladder and six ounces of pure pus, without any admixture of urine, were discharged. In the evening, about two ounces more were drawn mixed with urine—the first she had passed since the 14th, a period of eleven days. From this time her improvement was manifest, the spasms becoming less frequent and violent, and the urine increasing in quantity, until about the middle of December, when she was discharged as cured.

The foregoing case is certainly remarkable for its duration; as very few cases of this sure and usually fatal disease are extended beyond the eight or ninth day, death most commonly terminating the patient's sufferings even before that period. So far as we are aware, the period of time between the cessation and the reappearance of the secretion of urine, is longer than of any recorded case, in which recovery took place.

The administration of tobacco for the relief of spasm of an hysterical and tetanic nature, although of ancient origin, is not, we believe, general with the profession. Its use in the present instance was of undoubted utility, as was evinced by its power in controlling the paroxysms, after other remedies had failed, and in several instances since we have observed its good effects. The cases in which we have exhibited the tobacco, were such as were possessed of a vigorous constitution, with a full, tense pulse, and in short all the evidences of high arterial excitement. To such, and such alone, is the remedy applicable. Cases of an opposite description we need not say would be injured instead of benefited by its administration.—*Robert E. Little, M. D. in Southern Med. and Sur. Journal.*

## ON THE EMPLOYMENT OF ELECTRO-MAGNETIC CURRENTS IN THE TREATMENT OF PARALYSIS.

By GOLDING BIRD, M. D., F. R. S., &c.

(Dr Bird, whose experience of the therapeutic powers of electro-galvanism appears to have been considerable, gives the following classification of the varieties of paralysis in which he has found it decidedly beneficial.)

1. Case of partial paralysis resulting from congestion or other cerebral mischief, admitting of successful treatment. The congestion or effusion is removed, but a more or less palsied state of some part of the body remains.—Cases of this kind are common enough; and although the paralysis in general slowly disappears with the cause of the cerebral disorder, still the axiom of "*sublatâ causâ tollitur effectus*," does not always apply. Every now and then, although the blow has ceased, the bruise (if the expression be permitted) remains. Time, friction, change of air, restoration of the general health, strychnia, &c., will all succeed; but when with improved general health the stimulus of the electro-magnetic current be employed, success is much more general and certain. All that is required here, is to apply one of the conductors, covered with wet linen, over the trunk of the largest nerve of the part affected, and to pass the other, similarly covered with linen, over the region of the palsied muscle, so as to keep them actively contracting for some minutes. In recent cases, a single application will often succeed; in more chronic ones, the remedy may be continued for weeks, until the paralysis disappears. One of the first cases in which I used this remedy occurred, about nine years ago, in a gentleman holding a prominent position at the bar. I saw him with Mr. Freeman of Spring Gardens, under whose care he was. This gentleman had palsy of the left side of the face, the relic of an hemiplegic attack following cerebral congestion, the result of intense study and anxiety. His cerebral disease had been cured, his general health restored, but the paralysed nerves of the face alone refused to resume their functions. The electro-magnetic current was applied daily, the patient's footman being the "medical electrician," and in a few weeks he quite recovered.

2. Paralysis of muscles supplied by the portio dura, following exposure to cold.—This form of local paralysis, when independent of cerebral mischief, generally yields readily to treatment. Cases, however, occur, in which the nerve remains inactive, and the patient walks about for a long time with a distorted face. The electro-magnetic current is here of great value. I have seen many cases of this kind; one to which I was recently called resulted from exposure of the left cheek of a lady for some hours to a current of air from a broken window. She recovered readily from the accompanying bronchitis, but was left with her features distorted, being drawn to the right side. I at once suggested the current from the apparatus; her maid-servant was the operator, and cured her mistress in a week.

3. Local Paralysis involving the whole or a part of the limb from exposure to cold.—This variety resembles the last, and is probably of a rheumatic character; although, it must be confessed, it is often a difficult task to define the line separating rheumatic from some paralytic affections. The following is one of many I have seen:—The actuary of one of the large assurance offices consulted me, with nearly complete paralysis of motion of the left arm, sensation being pretty perfect; no pain whatever in moving the limb. During a cold winter he had been in the habit of sitting at his desk, with the right side of his body roasting by a large fire, whilst the left was chilled by blasts of cold air from a frequently-opened door. Gradually, pain and stiffness appeared in the left arm, but no swelling. The pain gradually vanished, and the limb was left palsied. I ordered a conductor to be placed over the lower cervical spinal region, to influence the origin of the axillary plexus, the other being passed down the arm. After a few weeks he quite recovered. This gentleman was his own operator; he fastened the spinal conductor in its place by his neckcloth, and thus had the right hand at liberty to apply the other.

4. Paralysis affecting one side of the body, or a single limb, the result of exhaustion.—These cases are not unfrequent, and before their nature was understood they used to be fearfully mismanaged, the paralysis being looked to, rather than the cause producing it, and depletion and mercury employed when nutritious food and stimulants were really indicated. It often happens that these cases are directly traceable to an obvious cause, and then the diagnosis becomes easy. The insidious exhaustion and enervation produced by excessive lactation is a not unfrequent cause. I saw a well-marked case of this kind five or six years ago, in a patient under the care of Mr. Pretty, now residing in Mornington road. This lady, a person of weak frame and strumous diathesis, had become exhausted by nursing her third infant, and the left arm became gradually palsied as far as motion was concerned. A generous diet, weaning the child, and the electro-magnetic current, were ordered. I had lost sight of this lady until a few days ago, when I was called to see her sinking from phthisis. I then learnt that, under the treatment suggested, the paralysis had soon disappeared.

Paralysis, from enervation, has occasionally followed sudden loss of blood at flooding labours. I have witnessed complete hemiplegia as the result. A case of this kind I once saw with my friend, Mr. Law, of Finsbury, who had most properly treated the lady with generous diet and iron, under which she did well. When under this treatment, in spite of the restoration of the general health, paralysis remains, the electro-magnetic stimulus promises, from what I have seen, to be of much service.

5. Cases of Rheumatic Paraplegia.—To this category I refer cases of rheumatism, affecting chiefly the lower extremities, the pain and acute action disappearing, while more or less complete paraplegia remains. In these cases I have seen the greatest benefit result from electro-magnetism, as well as from ordinary electricity. I have witnessed so many of these cases thus treated do well, that I can speak with great confidence of its influence. One case will suffice. A man came last summer into Luke's ward, at Guy's, under my care, with complete paralysis of motion of the lower extremities. He was totally unable to move his feet or knees, and was carried into the ward. This state of things had followed the dashing of ice cold water on his legs and thighs whilst sweating profusely. But little medicine was ordered for this man, and in less than three weeks he, under the use of electro-magnetism, walked about the ward, aided by one crutch and his stick. In these cases one conductor should be firmly

pressed against the sacrum, whilst the other is placed in a basin of salt and water, in which the feet are immersed.

6. Paraplegia the result of enervation.—I am not quite sure of the pathological correctness of the title I have thus assumed. By it, however, I understand a series of cases in which paraplegia, both of motion and sensation, results from excessive fatigue, from sitting for weeks and months together, during the greater part of the twenty-four hours, with the spine somewhat bent. I knew of one case in which a distinguished physician actually became thus palsied, after assiduously devoting his time to the study of certain phenomena by the microscope, in doing which he, for hours together, used to lean over the instrument. There is, however, another cause, unhappily too rife, of these cases, the miserable result of the utilitarian dogma which makes human labour a marketable commodity, without any regard to the conservation of health. I may perhaps startle some by announcing the fact, that I have, in several instances, seen more or less complete paraplegia among a class of labourers of the most oppressed and most unprotected character. I refer to the needlewomen of this metropolis—a class of girls and women who, to earn enough of the wretched pittance they receive from the agents who employ them, to procure the commonest necessities of life, are often compelled to work for fourteen, sixteen, eighteen hours, or even sometimes longer in the twenty-four hours. They toil on, indeed, at the needle, until their sight fails as they drop asleep, waking, after snatching a short slumber, to resume their work. These poor creatures receive from three half-pence to four-pence half-penny for making a shirt (for the latter price producing such as is worn by respectable mechanics and others.) They are unable to procure proper food, and are often driven to intemperance to forget their miseries, or to prostitution to add to their wretched income. No wonder that they become exhausted, enervated, bloodless; and paraplegia is not unfrequently the result. I had under my care in the hospital this last summer, a young woman who had once moved in a respectable sphere. She was quite paraplegic. She had been exhausted by working in the way I have described, and declared to me, that excepting dozing in her chair, she had often not slept for two nights together. She first felt vague pains in the toes, then in the knees; rigidity came on, and ultimately she became as I saw her, the lower half of her body being as powerless as if made of marble.

In many of these cases no organic lesion exists; and by due nourishment, rest in the recumbent position, iron or zinc, and the subsequent application of the electro-magnetic stimulus, recovery generally takes place. These cases are little known, and will continue (we must fear) to occur, so long as the labour of the friendless and dependent female is regarded with no more feelings of sympathy or humanity than the amount of duty performed by a steam-engine or any other machine.

In thus advocating the electro-magnetic current as an important and most valuable excitant of paralysed muscles, I must still acknowledge that it is anything but a universally successful remedy. In the great majority of forms of palsy above described, it is indubitably in some the actual curative agent; in all it expedites and aids the cure, in none is it injurious. As a general rule I think it will be found *ceteris paribus*, to act most effectually in proportion to the acuteness of the case. In chronic paralysis we must recollect that any new tissue deposited during, perhaps, many months, or longer, although organized like the healthy structure, and provided with its due supply of nerves, is still composed of fibres which have never obeyed the influence of the will—have never moved at the volition of the patient. This I believe to be the reason of our not at once rousing a long paralysed muscle into action. We can here only expect to succeed by submitting the paralysed part for a long period to the influence of the remedy. I cannot conclude without urging upon the profession the impropriety and mischief of using electricity in some cases merely because paralysis exists. In true spinal paralysis, depending upon organic lesion, the electro-magnetic current often does mischief, especially where there is sub-acute inflammation, or a highly irritable state of the spinal marrow—a state of things shown, among other symptoms, by the involuntary and unconscious starting of the legs. In all such cases the remedy does no good, and in some it does great harm, the effect of its local irritation, when applied to the legs, appearing to be reflected to the spine, and greatly increasing the patient's sufferings.—*Ran-king's Abstract.*



## A CASE OF EMPYEMA,

IN WHICH THE OPERATION FOR PARACENTESIS THORACIS FAILED FROM A CAUSE NOT GENERALLY NOTICED.

By JOHN SWETT, M. D., Physician to the New York Hospital.

It has happened to me to assist at, or to perform the operation for empyema seven times during the last eight years, and no difficulty has occurred to the easy and successful evacuation of the purulent matter until the present year. During this time, two cases have occurred to me in which no discharge of matter followed the operation, notwithstanding undoubted evidences were apparent to several intelligent physicians, as well as to myself. Both these cases terminated fatally. In one, the cause of failure appeared clear on post mortem examination; in the second case no post mortem examination was made, so that the cause of failure is at best conjectural.

A single gentleman aged about thirty-two years, with a strong family predisposition to tubercles, was attacked with hemoptysis about ten years ago, while pursuing his medical studies in Philadelphia. He soon, however, recovered his usual health, which was rather delicate, principally from the existence of dyspeptic symptoms, and continued to pursue his usual business, which was that of a clerk, until last autumn. He was then attacked by severe pain in the right side of the chest, cough, dyspnoea, and by other symptoms which were probably dependent upon an acute pleurisy. He, however, recovered his usual health, the cough, dyspnoea and pain in the side entirely leaving him, so that he could walk from his residence to his place of business, the distance of a mile and a half, during the coldest weather of the past winter, and with the greatest ease and comfort. Early in February, however, of the present year, the pain in the right side gradually returned with the cough and dyspnoea, and he complained of feeling feeble and unwell, although he continued to pursue his usual avocations at this time—he was attended by a physician of this city, who supposed that he was suffering from an affection of the liver. About the first of March, he was examined for the first time, by Dr. McClellan of Brooklyn, who found him much enfeebled, with a weak, rapid pulse, and with the physical signs of extensive effusion into the cavity of the right pleura. He was treated by a mild mercurial course, the gums being kept slightly sore for ten days, and by counter-irritation to the chest. Afterwards, tonic remedies were used, but they were soon abandoned, as they did not appear to agree with the digestive organs. In time, hectic symptoms appeared, while the gradual failure of the vital powers continued, as also the physical signs of the pleuritic effusion.

I examined the patient, for the first time, on the 25th of April last, nearly two months after his attack. He was then sitting up, his face pale and oedematous, somewhat emaciated, and with considerable loss of strength. His pulse was 116, and feeble—his respiration oppressed, with the ability to lie on either side, but with a preference for the affected side or the back. His cough was moderate, with a trifling transparent mucous expectoration. The appetite was indifferent and capricious, the stomach easily disturbed, the tongue red at the tip, and with enlarged papillæ—a slight tendency to diarrhoea existed.

On examining the chest, the right side evidently moved less freely than the left during respiration; it was universally dilated; it was oedematous, and outside the nipple there was a circumscribed bulging with tenderness on pressure, but without fluctuation. This side of the chest was also universally very dull on percussion. Anteriorly and posteriorly, over the upper third of the lung, a distinct bronchial respiration could be heard, also along the spine quite to the base of the lung—over the remaining portions of this lung, below the third rib in front, and laterally and posteriorly from the same level, all respiring sounds were entirely absent. Egophony existed over the middle portion of the side. The heart was considerably displaced to the left side, and the liver descended below the false ribs. Over the left side of the chest the percussion was clear, and the respiration pure and natural.

The condition of the patient, as well as the previous history of the case, convinced me, as it had already convinced Dr. McClellan, that a copious effusion of pus existed in the right pleural cavity. I hesitated as to the propriety of performing the operation for empyema, notwithstanding the favourable opinion of Dr. McClellan, because the strong family predisposition to tubercles, the occurrence of hemoptysis several years before; and finally the existence

of a bronchial respiration at the summit of the lung, induced me strongly to suspect that the lung was already the seat of a tuberculous deposit, and therefore, that an operation could be productive of but little benefit. The patient being disposed to leave the decision of the question entirely to us, Dr. Hoffman, of this city, was called in consultation; after a careful examination of the case, he was of the opinion that the operation for empyema should be performed. It was immediately performed (May 3d) by Dr. McClellan, in the usual place, laterally between the fifth and sixth ribs. The integuments were first divided by a scalpel; and a flattened canula, with a lancet shaped trochar, made for the purpose of penetrating the chest, was introduced. To our great surprise, no matter followed the removal of the trochar. A probe introduced to a considerable depth, much beyond the depth of the pleura costalis, came in contact with a solid substance, but still no pus flowed. We had observed, during the operation, after the division of the superficial parts, and which the existence of oedema prevented us from ascertaining before, that the intercostal space was not at all widened—that fluctuation was entirely wanting; and formed the opinion that an old adhesion had probably united the lung to the ribs at the place where the trochar was introduced.

The wound, kept from closing for some time, by the introduction of lint, with the hope that pus might at length find its way into it—at length healed. The patient, although well supported by proper means, gradually failed. Two new symptoms were noticed—the pulse became more feeble at the right than at the left wrist, and the patient complained of a severe oppressive dragging pain above the spine of the right scapula on rising, which was relieved at once by the recumbent position. The oedema of the chest also increased very much, and produced great deformity, by forming two large tumours, one anteriorly about the superior portion of the chest, the second, posteriorly about the base of the chest, but without fluctuation or other evidence of the pointing of matter. The feet were also noticed to be slightly oedematous.

The failure of the operation had, of course, thrown a good deal of doubt on the diagnosis of the case. The patient, therefore, proposed that Dr. Beales, of this city, should be called in consultation. After examining the case, Dr. Beales expressed the opinion that it was probably a malignant or cancerous disease of the chest. The same idea had already entered my mind, especially from the recollection of the cases detailed by Dr. Stokes, of Dublin, as well as of one I had myself attended, and which is published in the number of this Journal for July, 1845. In this case, the symptoms of pleuritic effusion appeared so marked, that tapping the chest had been seriously considered, while the true nature of the case, a large cancerous tumour, was only revealed by post mortem examination.

With these views of the case, it was of course thought advisable to do nothing beyond making the patient as comfortable as possible. On the 4th day after the consultation, June 16th, pointing occurred at the very spot where the incision had been made; a spontaneous opening took place, and a large quantity of purulent matter was discharged. The patient was somewhat relieved; the breathing became less oppressed, and the distressing dragging sensation at the top of the right shoulder, entirely disappeared. But the patient gradually sank, and died on the 23d of July.

*Post mortem examination, 12 hours after death.*—The right side of the chest was still somewhat dilated; the oedema had entirely disappeared, except at the lower extremities. The external opening into the right pleura continued. This cavity contained a quantity of fetid gas, and about one quart of pus healthy in appearance, but of a very nauseous odour. The whole pleura was covered by a thick false membrane of variable firmness, and detached without difficulty from the parts beneath. The pleura itself was somewhat thickened and opaque. The lung adhered to the diaphragm by old adhesions; also at the summit of the chest, anteriorly as low as the third rib, and posteriorly to the same extent. Laterally, where the operation had been attempted, there were no adhesions uniting the lung to the pleura costalis, but only a false membrane, somewhat friable in its texture, and adhering with moderate firmness to the pleura costalis. The right lung considerably compressed, exhibited no evidence of disease, except two small aborted tubercles at the summit. The left pleural cavity was healthy, except from the existence of some old adhesions at the summit. The left lung contained, at its summit, some old cretaceous tubercles and a cicatrix. Numerous minute, semi-transparent miliary tubercles, apparently of very recent for-



mation, were scattered throughout this lung. The heart was natural. A few tubercles, were also noticed under the peritoneum. The liver was closely united to the diaphragm by old adhesions; its structure appeared to be natural.

The cause of failure in evacuating the pus, in the above case, was not a mistake in the diagnosis of the disease, but unquestionably, I think, a *false membrane lining the pleura costalis, and so loosely attached to it, as to be pushed before the point of the instrument*, so that the cavity containing the pus was not entered at all. I was not aware that any writer on the diseases of the heart had alluded to this as a cause of failure of the operation, until Dr. Hoffman directed my attention to Dr. Watson of London, who, in his lectures recently published, states on the authority of Dr. Davies, that the operator should be careful to use a sharp instrument, otherwise the accident of pushing the false membrane before its point might occur. But no cases are referred to in which this accident actually occurred, neither is it stated that it has ever happened. That the dullness of the point of the instrument may be an occasional cause of this accident, is, perhaps, partially true in the above case; for in another case which occurred in the practice of Dr. Hyslop, and whom I assisted in consultation, the same instrument was used, and for the moment with the same ill success, notwithstanding that distinct fluctuation existed at the point where the trocar was introduced. The delay of the pus, was, however, only momentary; the introduction of a probe, probably by rupturing the false membrane, gave it a free passage.

But a dull instrument is not, as I think, the sole cause of the accident. That the false membranes forming the true sac in empyema are frequently thick and resisting, must have been observed by all in the habit of examining those who die of empyema; but the looseness with which these membranes are sometimes attached to the pleura would not, perhaps, be as readily noticed, unless in connection with the accident we are now considering. In a case that has occurred to me during the present year, the false membranes were not only three or four lines in thickness, but dense and elastic like leather, and yet so loosely attached to the pleura that, by a slight pressure of the fore-finger, they could be readily separated in the form of a complete sac.—*New York Journal of Medicine, January.*

## ON THE CHARACTERS OF THE URINE,

### THE BLOOD, AND THE DROPSICAL EFFUSIONS IN ALBUMINURIA.

Heller has recently published a long memoir in which he has displayed the results of numerous researches relative to the pathological characters of the fluids, in albuminous nephritis. As this memoir gives a very complete insight into our knowledge on the subject, the following brief analysis may be acceptable to the reader:—

1. *Characters of the Urine.*—The progress of albuminous nephritis comprises three distinct periods, each of which is characterised by particular modifications in the urine. In the first or period of congestion, the secretion has a deep red colour, which is due to the presence of blood, or at least to its colouring matters. Nevertheless, the reaction is ordinarily acid, excepting blood be present in an unusual quantity. In the second or chronic stage of the disease, the urine is more pale, of a straw colour; while in the third period, it again contains blood, but it is at this time strongly alkaline, ammoniacal and fœtid. The secretion of urine is usually diminished during the whole course of the disease, excepting in some rare instances in the chronic stage, when its quantity is augmented.

In the first period, the urine, which is turbid, and high coloured, deposits either a whitish sediment, or a sediment which is coloured by the mixture of blood globules; the super-natant liquor is at the same time clear and red. The presence of the perfect blood-globules is not, however, in all cases, the cause of the deep colour of the urine; it is sometimes due to the hæmotosin alone. The urine may be acid, neutral, or alkaline, and its specific gravity is always below par. In the second period, in which the urine is turbid but clear, the deposit is of a browner colour; in this

period the reaction is acid. Later, the urine is often very pale, like thin whey, and deposits a light-coloured flocculent sediment; the urine at this time rapidly becomes ammoniacal; its specific gravity is, as before, diminished. In the latter periods the deposit is again reddish, from admixture of blood-globules; it is sometimes ammoniacal at the moment of excretion, but at all events soon becomes so; the specific gravity also rises.

In examining microscopically these various sediments, it is perceived that they are composed of two classes of materials, one comprehending those which are normally and constantly present in urinary deposits; the second, those which are accidentally present. The constant ingredients are:—1. The *Pavement epithelium*. This epithelium is always found in large quantity, especially at the commencement of the disease, at which time the deposit is almost entirely composed of it. The epithelial cells are not, however, of a natural figure, being rather round than oval, with very distinct nuclei.—2. The *Epithelium of the tubes of Bellini*. This epithelium is generally small in quantity at the commencement of the malady, wherein it differs from the former. It presents itself under the form of colourless canals, containing brownish nuclei of variable size. Considerable attention is required to detect the species of epithelium in the urinary deposit, as it is frequently so transparent as to elude observation.—3. *Albuminous flocculi*. (*Albumin pilze*.) These are very distinct, especially when the urine is alkaline, of various shapes and sizes, and resemble fragments of pearls.—4. *Mucus-globules*.—5. *Inflammatory globules*. These are found for the most part during the stage of congestion.—6. *Fatty globules*. Which exist principally in the chronic stages of the disease.

The accidental matters found in the urine of Bright's disease, are—1. *Crystals of uric acid*, for the most part colourless and of a rhomboid figure.—2. *Urate of ammonia*, which exists principally in the early stages.—3. *Pus*, generally seen in the early periods.—4. *Crystals of uroglauzin*. These crystals are seldom seen in the urine at the time of excretion, but are often visible after it has stood for some time. They appear as a crystalline mass of an indistinct blue colour.—5. *Crystals of ammoniaco-magnesian phosphate*.—6. *Carbonate of ammonia*. Both these are peculiar to the last stages.

The reaction of the urine is almost always acid in this disease, which reaction Heller thinks is sometimes due to the uroxanthin, as it cannot always be accounted for by the presence of uric or hippuric acid. The effect of the presence of blood in any quantity is to render the urine alkaline. In the latter stages the alkalinity is due to the development of carbonate of ammonia.

The *specific gravity* is variable. In one instance observed by Heller, it ranged from 1.006 to 1.048. In order to gain a correct measure of the specific gravity, the albumen should be first coagulated by heat and afterwards separated by filter.

Among the different substances contained in the urine of albuminous nephritis, there are some which require special mention, and first of the *uroxanthin*. This substance presents itself in solution as a yellow colouring matter, and exists in considerable quantity, changing either immediately or more slowly to a violet colour, after the precipitation of albumen either by heat or nitric acid. *Albumen* is another constant ingredient, but varies greatly in quantity; sometimes it is scarcely to be recognised, at others the urine coagulates into a solid tremulous mass. At the close of the disease the albumen often nearly disappears. *Urea* is always present but in diminished quantity. The *salts* are less abundant than natural, not only absolutely but relatively.

2. *Characters of the Blood.*—The blood in this disease loses its density in a notable manner, in consequence of the loss of albumen. It, however, retains its natural appear-

ance and coagulates perfectly. The serum is pale and of a low specific gravity. It contains urea in considerable quantity, but no biliary colouring matter. The fibrin and globules are not materially changed. The chief alteration therefore consists in a loss of albumen and the presence of urea; the latter condition, however, is not peculiar to the disease in question, but is observed also in cholera and in ischuria renalis.

3. *Characters of the Dropsical effusions.*—This fluid is of a pale yellow colour, alkaline, and of a low specific gravity. It contains albumen in small quantity, a circumstance which distinguishes it from the fluid of other forms of dropsy, in which, on the contrary, albumen is abundantly present. It never contains the colouring matter of the bile. By rest it deposits a small quantity of fibrin. It contains also epithelial cells, and salts in large quantity, and more particularly the chloride of sodium.

It is evident, therefore, from the above researches, that the constituents of the urine, blood, and serous effusions in albuminous nephritis preserve a certain definite relation. The water which should pass into the urine is found in the effusions; the albumen which is missed from the blood, is found in the urine, and to a small amount in the effusions; the urea deficient in the urine is discovered in the blood; and lastly, the salts which are absent from the urine appear in the dropsical effusion. (*Archiv. fur Physiolog. und Patholog. Chemie und Microscopie*. 1846, t. 2.)—From *Provincial Medical and Surgical Journal*. Jan. 27.

### BRIGHT'S DISEASE OF THE KIDNEY.

The following conclusions, drawn by Dr. George Robinson, are the result of his researches on the pathology of Bright's disease:—

1. That the epithelial or secreting cells of the healthy kidney contain a certain quantity of oil; the proportion of which, under certain circumstances, and, within certain limits, may fluctuate considerably.

2. That it is an excessive increase of this fat leading to engorgement of the epithelial cells, and of the urinary tubes, which constitutes primarily and essentially Bright's disease of the kidney.

3. That the presence of albumen and blood in the urine, and the wasting of the tissue of the kidneys, are secondary phenomena, dependent on the mechanical pressure of the accumulated fat.

4. That, in the majority of cases, Bright's disease is associated with a similar fatty degeneration of the liver and arteries, and frequently of the valves of the heart; these diseases being related to each other as joint effects of one common constitutional cause.

5. That probably acute inflammatory dropsy, occurring in a person previously healthy, and the dropsy which occasionally supervenes upon scarlatina, have no necessary connection with Bright's disease of the kidney.

6. That most important evidence of the approach and presence of the renal disease may often be derived from a microscopical examination of the urine, in which will be found fat in unusual quantity; partly in the form of free oil globules, and partly contained in epithelial cells which have escaped from the urinary tubes.

7. That the insight which we have obtained into the peculiar change which the kidney undergoes in Bright's disease, and the knowledge we possess of the simultaneous occurrence of a similar change in other organs, may serve as important guides in the prevention and cure of the disease. (*Medico-Chirurgical Transactions*, Vol. 29.)—From *Provincial Medical and Surgical Journal*. Jan. 27.

### CASE OF PERITONITIS, WITH PURULENT EFFUSION; SPONTANEOUS EVACUATION OF PUS THROUGH THE ABDOMINAL PARIETES.—RECOVERY.

By C. J. B. ALDIS, M. D., Physician to the London and Surrey Dispensaries.

The subject of this case was a little girl, aged seven, whom the author saw, for the first time, on June 5th. At this time the abdomen was much distended, with umbilical protrusion and fluctuation. A small swelling, with thin parietes, was observed between the margin of the ribs and umbilicus on the right side. It was reported that, eleven weeks previously, the child had been attacked with chilliness, followed by heat and vomiting, with pain in the belly, feverish symptoms, and delirium. The tumefaction of the abdomen first appeared in about four weeks.

After a careful examination of the abdomen, no enlargement of any of the viscera could be detected. The motions never contained purulent matter. From the history of the case, and the present symptoms, the author considered it one of peritonitis, with effusion, the swelling above mentioned being an effort of Nature to evacuate the effused fluid.

On the 8th of June, about five quarts of pus escaped through a perforation of the abdomen occurring naturally in the swelling. After this, the abdomen was uniform in appearance: no tumor nor remains of a cyst could be traced. The discharge continued more or less until the 31st of July, when it had nearly ceased. The author lost sight of the case until Sept. 14th, when he found she was in perfect health—a cicatrix had formed where the discharges issued.

The author concluded by remarking that the case is interesting from the unusual occurrence in children of such a termination of peritoneal inflammation. Dr. R. Lee has informed him that he has met with several cases of puerperal peritonitis terminating as the above; but has never met with a similar instance in children.

Dr. WATSON observed, that purulent matter, the result of peritonitis, was uncommon, whether in relation to children or adults. He inquired if any of the members had met with a case analogous to the one just read?

Dr. ALDERSON regarded the case as one of abscess in the walls of the abdomen, and thought that there was no evidence of peritonitis having existed.

Dr. ALDIS said, that he had, in the narrative of the case enumerated, various symptoms of peritonitis, such as tenderness on pressure, and vomiting; but as he had seen the case, on the first occasion, eleven weeks after the peritonitis had existed, he could not be more precise in his account of it. Five gentlemen besides himself had seen the patient, and regarded the disease as peritonitis. Fluctuation existed over the entire abdomen, which was very much distended. He referred to three cases of a collection of a matter to a smaller extent, occurring as the result of puerperal peritonitis, in the practice of Dr. R. Lee.—*Dublin Medical Press*.

### SALIVATION FROM CAUTERIZATION OF THE CERVIX UTERI WITH ACID NITRATE OF MERCURY.

M. Lisfranc has observed that the application of this form of mercury will produce salivation in about one case in two hundred; but the symptoms are not in general severe. In one case, however, a female, in the ward of St. Augustin, in the Hospital of La Pitié, a single cauterization produced an abundant and obstinate ptyalism. [This fact is worthy of being remembered, not only as contradictory of the opinion generally entertained of the comparatively low vitality of the cervix uteri, but as a caution which should not be without value, in reference to the mode of treating uterine engorgements now much in vogue.]—*Gazette des Hôpitaux*, October 17, 1846.

### TINCTURE OF CANTHARIDES IN BRIGHT'S DISEASE.

This medicine, in the dose of from fifteen to twenty drops, "par pot de tisane," combined with the use of decoction of bark and chalybeates, is the remedy which has given the best results in the treatment of albuminous nephritis.—(Bright's Disease.) Many cases have already been cured by this treatment.—*Ibid*.

## SURGERY.

## e INHALATION OF ETHER IN SURGICAL OPERATIONS.

*To the Editors of the Medical Press.*

GENTLEMEN,—Having now administered the vapour of ether for the purpose of rendering surgical operations painless in a great number of cases at our metropolitan hospitals and at my private residence with perfect success, permit me, if not encroaching too much on your valuable columns, briefly to state the appearance of the patient, when under the influence of the vapour, that indicates the proper time for the operation to commence.

As my own operations on the teeth have now become numerous and satisfactory to those medical men who daily witness them, I will not occupy the time of your readers by entering into detail.—I am, gentlemen, your obedient servant,

JAMES ROBINSON, Surg. Dentist.

7, Gower-street, Bedford-square, January 16, 1847.

At the commencement of the inhalation always allow the patient to inhale the vapour three or four times without closing the nostrils; the nostrils being closed, observe carefully the appearance of the eye, the pupil of which will be found, in most cases, after about a minute's inhalation, to be considerably dilated (according to the susceptibility of the individual); after eight or ten more the pupil of the eye will remain stationary and fixed for a period varying from one to two seconds, it will then turn towards the upper eyelid; this motion will be repeated several times. If the vapour be continued, the pupil will be observed to turn under the eyelid, and remain fixed; three or four inhalations more and the operator can commence.

In operations which are protracted and require any length of time, cut off the vapour by means of a stopcock attached to the mouth-piece to the one I have invented. Permit the patient to breathe the atmosphere through his nose five or six times; again let on the vapour, and so on, breathing atmospheric air and the vapour of ether alternately, at intervals of half a minute, until within two or three minutes of the completion of the operation, when the pipe, &c., can be removed with perfect safety as to the result.—*Dublin Medical Press.*

## ON THE DIVISION OF THE TENDO ACHILLIS.

Professor Stromeyer has lately published the following propositions, in which he lays down the indications for, and the manner to proceed in, dividing the tendo Achillis:—

1. The tendo Achillis ought to be divided with a small thin knife, with a sharp point, and slightly rounded, employing the subcutaneous section, and cutting from within to without, taking care to make but one puncture of the skin.
2. The tendon must be entirely cut through or the operation will be unsuccessful.
3. When other muscles or the plantar aponeurosis are retracted at the same time as the tendon, the former must always be divided before the latter.
4. After the operation the wound must be dressed with compresses, bound on with a bandage in the figure of eight.
5. With adults, on the fourth or fifth day after the operation, and with children, on the third or fourth, the first dressing must be removed, and if (as is often the case), the wound is found to be healed, it must be opened again; this must never be done when there is great ecchymosis, or when the wound suppurates.
6. Before putting the foot in the machine for the extension, the limb must be surrounded by a sound bandage, and some pads of cotton must be placed on all the parts that are to be submitted to great compression.
7. Extension must be proceeded with gradually and slowly, lessening it each time it gives pain to the patient.
8. The dressings must be removed if the patient suffers much and continued pain in the parts compressed, in order to avoid excoriations, erysipelas, or mortification of the tissues.
9. Immediately upon taking off the dressings the limb must be enveloped in wool.
10. It ought to be known that all those who have had the tendo Achillis divided, have felt a sensation of cold and numb-

ness, which is sometimes limited to the heel, sometimes extends over the whole limb. This sensation gradually diminishes, and generally disappears entirely by the sixth or eighth day.

11. The first day or the next morning after the operation, a viscid sweat of a disagreeable odour comes out on the foot, although the patient has never previously been subject to perspiration of the feet.

12. In placing the foot in the extension machine, it ought to be put in such a direction as to form a right angle with the leg; and this position ought to be maintained for eight days. After this period has elapsed, the limb must be enveloped in a circular bandage, and the patient must not be allowed to make any attempt to walk before the fourth week. Without this care, the limb will swell, the wound become irritated, and perhaps even the new tissue will give way.

13. It is impossible to name precisely the duration of the treatment. This must in some degree depend on the state of the patient, the degree of the deformity, and the extensibility of the articular ligaments.—*Ibid*, Nov. 10, 1846.

## TREATMENT OF EPISTAXIS BY INSUFFLATIONS OF ALUM.

When hæmorrhage from the nasal cavities assumes a dangerous aspect, recourse is generally had to plugging, a measure both inconvenient and painful. M. Lecluyse has successfully employed means far more simple, and at the same time, according to his own account, more certain—namely, the insufflation by means of a quill of equal parts of powdered gum arabic and alum. In one case this succeeded after three repetitions, other means, and plugging among them, having entirely failed.—*Gazette des Hôpitaux*, Nov. 3, 1846.

## MIDWIFERY.

## TWO CASES OF DOUBLE VAGINA.

By Professor MZIGS.

On the — October, 1846, I was called to see Mrs. —, aged 20 years, in labour of her first child. She is a remarkably well formed and comely woman.

The pains were sharp and frequent, evidently of the kind called dolores præparantes, or grinding pains. After some time, as they had become more violent, I examined the state of the os uteri, which was of the size of a half-dollar, the head of the child presenting, and the ovum unruptured. In the course of an hour more, I examined again, and the os uteri was then nearly dilated. While pressing the palm of my index finger to the left side of the pelvis, it caught in a seeming bridle, which at the instant made me fear the cervix uteri had been broken, so as to detach a semi-circular portion of the os uteri, for the pains had been exceeding sharp, and their returns had been announced by violent cries. It was but a moment that I indulged the idea of a rupture of the cervix, for upon pushing the index farther, and flexing the finger, I found I could draw the point of it outwards, pulling along with it the bridle in question. Still I did not understand the case until, having withdrawn the indicator, I examined with it the structure of the external parts, and then learned that the lady was possessed of a double vagina. Supposing that such a revelation would not be agreeable to her, I kept my own counsel, hoping that the child's head would come down through the right or the left channel without injuring the septum. But after the head escaped from the circle of the os uteri, the bridle or partition would not go definitively to the left or to the right, although I thrust it first one way and then the other. The tie was so strong that the fleshy septum extending from the anterior to the posterior columns of the vagina, would not admit of the dilatation of the lower or outer third of the tube. And as the lady was very strong, and had powerful uterine pains, I began to perceive some danger of the vagina being ruptured by the vain efforts for expulsion.

I now explained to the monthly nurse, and to a relative of my patient, the cause of the delay and the necessity that had arisen. I therefore procured the requisite permission to expose the parts to an inspection. Upon this, the two orifices of the vagina were seen to be exactly alike, and the partition stretched across the head from front to rear of the passage, which by it was wholly prevented from dilating.

I now with a strong scissors divided the wall by a single stroke of the instrument, whereupon the child's head advanced, dilated the os magnum, and was speedily delivered with safety to both the mother and her infant. She never complained afterwards relative to the operation, and within a month I met her on foot in the streets.

A week after, I was called to a lady in her 30th year, in labour of her first child. Upon examining the state of the os uteri, I found the circle not much bigger than a quarter dollar, with thin margin, and within it the penis of the child; the scrotum being detected within the os uteri after the pain ceased.—As it was night, I went to another apartment and slept an hour, when being called, I found the os uteri very much dilated, and a buttock, near which was the right foot, presenting.

While inquiring into the state of the cervix, I hooked my finger into a bridle, just as I had done in the case above mentioned, and I confess that the same thought was obvious to me, viz: that she had broken off a half ring of the circle of the os uteri, but I immediately afterwards discovered that I had another case of double vagina under management. In this case the partition was very firm and thick, extending from the os magnum almost up to the os tince. I inspected the external structures, and the two vaginas were each perfect and alike, included within labia pudendi common to both.

I was glad to find that only one foot of the child would come down, being fearful that if both should descend, I might not readily prevent one from entering the right and the other the left vagina.

I now disengaged the right foot and brought it down the right channel, the left leg was flexed upon the belly and thorax of the fetus. With a little assistance the foot was delivered and the buttock of the child coming downwards, thrust the vaginal wall to the left, and so the trunk was delivered.—I had great difficulty to extricate the head of the child, which remained long in the vagina; the infant breathing from time to time the air that I admitted through the hollow of my hand and fingers to its mouth and nostrils. The child, a male, was alive, and is in good health; the mother is quite well recovered.

Some years ago I was called by the late venerable Dr. Ruan to consultation upon a case of double vagina in a primiparous woman. I delivered the child with the forceps through the right canal, without difficulty or any injury, and had some five weeks later an inspection of the parts, which, as I remember, were very similar to those described in my second case above.—*Medical Examiner*, Dec. 1846.

#### APPLICATION OF ETHER VAPOUR TO THE PRACTICE OF MIDWIFERY.

Professor Simpson has employed ether vapour in the practice of midwifery, and is the first, we believe, who has made the application of this agent. The case was perfectly successful, as the following extract will show:—

"A few days ago Professor Simpson stated to his class that he had practised with entire success the inhalation of sulphuric ether in a case of the most difficult form of labour, and where otherwise the sufferings of the patient would undoubtedly have been extreme. The mother was lame and deformed. At a former accouchment, the labour lasted three or four days, and, from the necessarily protracted use of instruments, the patient's agonies were very great. On the present occasion, Dr. Simpson had previously determined to avoid, if possible, the use of all instruments, and to attempt to extract the infant by the feet. He expected to be aided in this by the use of the ether inhalation.

Accordingly, when labour had set in for a few hours, the patient was put under the influence of ether, and in a few minutes the child was turned and extracted, while the mother was altogether unconscious of the operation, and that, too, although the delivery was rendered excessively difficult, by the degree of compression to which the child's head required to be subjected. On afterwards awaking, or passing from her 'etherialized' condition to the state of common consciousness, one of the first circumstances of which the patient became aware, was the noise attendant on preparing a bath to resuscitate the infant. A remarkable circumstance pointed out in the case by Dr. Simpson was, that, whilst breathing the ether, the labour pains or throes continued, and yet the mother (to speak paradoxically) felt no pains. We hear she is rapidly recovering. This is, we believe, the first instance in which this new and extraordinary agent has been employed in the practice of midwifery."—*London Med. Gaz.*, Jan., 1847.

#### MEDICAL JURISPRUDENCE.

##### ON THE APPLICATION OF M. RIENSCH'S TEST FOR THE DETECTION OF ARSENIC, TO MEDICO-LEGAL INQUIRIES.

By D. P. GARDNER, M.D., of New York.

The discovery of arsenious acid in complex fluids has always been an important problem in the science of toxicology, by reason of its frequent use for criminal purposes. From the statistics of the *Vicomte de Cormenin*, it appears that between the years 1830 and 1840, three hundred and thirty-five cases of poisoning by arsenic, implicating four hundred and fourteen persons, were investigated by the Parisian tribunals alone; and two hundred cases more were ascertained, but not brought before the courts. The use of this substance, in minute doses frequently given, to produce a lingering death, has entailed upon the chemist the necessity of furnishing himself with the most delicate tests. For as the certainty of detection increases, the temerity of the criminal also becomes greater, so that the cause of morality is directly advanced by these researches.

Numerous tests are recognized in medicine, but all of them with the exception perhaps of Mr. Marsh's, are of little value in collecting the poison out of its solutions. This part of the process is, however, the most important, for the profession have unanimously agreed that no series of precipitations is satisfactory, unless the metal be finally reduced. If sulphuretted hydrogen be used, as recommended by Dr. Christison, for the precipitation of the arsenic, we are embarrassed afterwards by the collection of the matter thrown down, and then the reduction. This, and many other processes, advised by writers, require much time, with the use of materials not belonging to the medicines of a country practitioner, and they are less delicate than the method of M. Riensch, for the discovery of arsenic as a commercial impurity in various fluids and reagents. The reader is referred to No. 126, December 1841, of the *London, Edinburgh and Dublin Philosophical Magazine*, for an abstract of M. Riensch's paper "*on the action of metallic copper on solutions of certain metals, particularly with reference to the detection of arsenic*." That article led me to examine the utility of the test recommended in medico-legal questions, and from extensive series of experiments, I became convinced of its great value, and have communicated this paper with a view of introducing to the notice of the profession, the simplest, and, as I believe, the most effectual method of collecting arsenic out of suspected fluids.

The principle on which the test is founded, is that pure hydrochloric acid exerts no action upon bright copper—but when certain metallic solutions are present, as an adulteration in the acid, it then attacks the copper, and there is thrown down the reduced metal of the solution. Many metals will thus precipitate themselves, but some do so when in minute quantities, whereas others fall down only when in large amounts. Some salts of mercury are reduced without hydrochloric acid, whilst arsenic in no proportion can tarnish copper, unless the acid be present.

Before Riensch's process could be adopted by physicians, it was necessary to ascertain how far organic matters, such as may exist in the contents of the stomach, &c., were calculated to embarrass the operator. The existence of medicines, in the suspected fluids, might also destroy the value of the test. These inquiries and the

hope of simplifying, and rendering the process more certain, caused me to enter upon a full examination of the matter.

There are three stages in the manipulation: 1. The collection of the arsenic in Riench's test; 2. Its sublimation; 3. Its separation from other substances.

1. The collection of the poison out of a solution, in which no other active metallic agent is present, is most easily effected by the following process. A piece of copper, in the form of wire or sheet, is to be filed bright, and introduced into the suspected fluid; to this is then added a small quantity of pure hydrochloric acid, and the whole boiled together in a glass flask. Upon examining the copper after a few minutes' ebullition, when arsenic is present, its surface will either be found coated with a film of the colour and lustre of rolled zinc, or a deep black with slight polish; or covered with scales of a black colour. These various appearances depend upon the quantity of the poison present, and the extent of the surface of copper. If the boiling be continued after the scales are produced, they drop off, and are lost in the fluid, so that the collection becomes imperfect. All the arsenic present can be separated in this way, therefore the copper not only reduces it, but also affords us an accurate measure of the amount in solution.

In this part of the subject, the most important practical considerations are the determination of the amount of metallic copper to be used, and the method of procedure in dense fluids, such as broths, matter vomited, the blood, &c. In ascertaining the first, two things are to be remembered; 1st, that in the second step of the operation, the sublimation, the tube should be as fine as possible; and 2d, the thickness of the deposit of arsenic is not at all important, excepting that less copper is required, but there is danger of its falling off in scales if too little is used. The only rule that is applicable to all cases is, to examine a known small proportion of the fluid first, and ascertain how much copper is necessary to deprive it of all its poison; the estimate thus made may be applied to the remaining portions of the solution. If sheet copper be used, it should be cut into strips, not exceeding one fourth of an inch wide, and one inch long, so that they may be readily admitted into the subliming tube. The whole amount of poison present may be sublimed in several tubes. To be certain that all the arsenic has been separated from the fluid, successive strips should be introduced, and the boiling continued longer and longer, until no stain is produced in thirty minutes.

The colour and consistency of the fluids examined, may be sources of much embarrassment, when the usual tests are employed; and filtration is a necessary part of the process when the fluid re-agents are used. But neither of these qualities opposes serious impediments to the method under consideration. The coagulability of the solution is, however, a serious obstacle, because the arsenic is shut up in the coagula, and cannot be brought into contact with the copper. To remedy this evil, the coagulum should be cut up into minute pieces and warmed along with muriatic acid, the consequence of which is that all the poison will be dissolved by the acid, which is one of the best solvents of arsenic. The solid parts should be afterwards separated, by straining through a strong piece of cloth of close fabric. In this way, the drug can be collected out of blood. When the coats of the stomach are to be tested, they should be cut up, as is usually prescribed, and boiled with dilute acid. In operating upon fluids which are not yet coagulated, it is best to add dilute hydrochloric acid before heating, for in this way they do not form so dense a solid, but the acid exerts its solvent action throughout the mass, and may be afterwards pressed out by straining.

A certain number of copper strips will be thus obtained, coated with arsenic, and the next step is to remove from them any substances which may interfere with the second part of the process. Water, oleaginous matters, and solid particles from the solution adhering to the copper, are all to be removed. The first can be easily effected by bringing the metal into contact with bibulous paper and then warming it, gently. The other substances must be cleared off by introducing the strips into some warm water in a capsule, and moving the vessel so as to communicate a gentle motion to them; friction should be avoided. The cleaning may be continued in three changes of water, and the copper should be afterwards dried as already directed. It is of considerable importance that no empyreumatic vapour should be produced during the second stage of the manipulation.

2. The sublimation requires to be conducted with great nicety, when the quantity of poison is minute. The tube used should be

about six inches long, and open at both ends, one of which is drawn out to a perforated point. The diameter must be diminished with the amount of metal collected; when that is very small it should not exceed one tenth of an inch, and never be larger than is necessary, and as small as possible to operate with. The strips used in delicate investigations will therefore be reduced in size so as to enter the subliming tube. The greatest attention must be bestowed to cleaning the tube thoroughly; a piece of rag, attached to a wire, should be introduced, and drawn up and down, until all dust is removed; the outside should also be examined, so that it may be perfectly transparent. It must be dried by being warmed over the flame of a spirit lamp.

The copper strips, or as many as may be desired, are then to be introduced into the tube, so as to fill up the narrow end for about two inches. They must not be packed together, for it is necessary that air should pass freely amongst the pieces. The tube is next to be warmed up to the boiling point of water, so that any moisture that may still be present shall be driven off. The heat should be first applied at the occupied end, and the water as it condenses be heated so as to leave the tube entirely. If the condensing fluid be discoloured by the presence of empyreumatic matters, this part of the process must be managed with great care, so that the copper be not subjected to too high a temperature. All moisture having been expelled, the tube is to be allowed to cool down, and is afterwards to be brought again into contact with heat, to sublime the arsenious acid.

The pointed end is first to be heated to approaching redness, care being taken that the aperture be not closed thereby, and the tube is then to be slowly moved through the flame until it warms each part in succession, as far as the enclosed metal extends. The temperature at which the sublimation takes place is  $380^{\circ}$  Fahr., which should not be much exceeded. If the process has been well managed, and arsenic be present, it will be found in the form of arsenious acid, occupying a position around the tube about half an inch beyond the copper strips. The part of the glass surrounding the strips will be stained by a whitish opalescent film, which when the heat has been carried high becomes green; it is a salt of copper, as is proved by the action of the ferrocyanide of potassium. This stain does not in any way interfere with the test. The metallic copper is encrusted with dioxide.

The arsenious acid of the ring is formed by the action of the oxygen of common air, which, as it passes over the heated metal, combines with any arsenic present. It collects on the nearest cool place, in the form of minute octahedrons of a remarkable brilliancy. The crystals are much more characteristic of arsenic than the reduced metal, which may be counterfeited by many substances. The smallest amount of the acid that can be satisfactorily recognized is the 1.500 of a grain. In examining it, the tube should be first cut immediately below the ring, and the deposit viewed with a magnifying glass at the open end and near the crystals; in this way the influence of the refractive power of the tube can be avoided. The production of arsenious acid from the metal is also advantageous, inasmuch as the bulk is increased in the ratio of their equivalents, or as 75.31 to 99.34 ( $\text{AsO}_3$ ). The field covered by the crystals is also larger than that which would be occupied by the reduced arsenic. There is no sublimate which can rise under the preceding circumstances, that will in any way embarrass the operator.

Arsenious acid thus obtained forms a perfect evidence, and none other will be desired by the chemist. But in medico-legal questions it is proper to collect it, and use the other tests, so as to remove all doubt from the minds of the jury. The best way to collect the acid, is to cut the tube with a file, immediately above and below the ring, and pound up the whole in a mortar of sufficient hardness. The particles of glass cannot interfere with any test to be used.\* A portion of the powder thus obtained should be digested in pure water, and tested by ammonia-nitrate of silver sulphuretted hydrogen, &c. Another part may be reduced with charcoal, and a third portion introduced into Marsh's apparatus.

In examining the delicacy of the foregoing process, it was found that one part of metallic arsenic in 200.00 parts of fluid can be detected, and 1.500 gr. sublimed and satisfactorily recognized.

\* It should always be remembered that glass not unfrequently contains arsenic, which is used in its manufacture as a deoxidizing and decoloring agent. Every sample of glass to be employed in toxicological experiments, should therefore be carefully examined to prove its purity.—Eds.

Mr. Breet (Lond. Ed. and Dub. Phil. Mag., No. 132) did not succeed in detecting less than 0.0169, or nearly 1.250 gr. of metal, by Marsh's apparatus. M. Riensch considers the discolouration of the copper as a sufficiently delicate test for arsenic, but in my researches the colour of the deposit did not appear so perfect a means of discrimination as the production of the sublimate of acid. Its adamantine lustre and triangular facets are much more distinctive; the ease with which it can be volatilized—its rising without previously fusing, are all characters rarely met amongst chemical substances, and are, collectively, common to no other body. The length of time requisite to conduct an analysis up to the production of the sublimate, when the solution does not offer any cause of delay, does not exceed five minutes, for a small quantity. But the presence of other metals in the solution, as well as the impurities of commercial muriatic acid, are sources of embarrassment which it is necessary to examine before this test can be recommended to the profession. This inquiry forms the third division of our subject.

3. Arsenic exists in many specimens of hydrochloric acid met with in commerce. Such an adulteration is fatal to the delicacy of Riensch's test; and the acid used in the foregoing process must be first carefully examined and purified. The method recommended by M. Riensch for this purpose is the best—boiling the acid along with bright copper strips, as long as they continue to be stained with arsenic. The quantity of acid must be in proportion to the amount of fluid; there is no danger of using too much. But the presence of remedial agents in the suspected mixtures is a source of much more difficulty. In the November numbers for 1829 of the American Journal of Medical Sciences, there is an exceedingly important paper by Samuel Jackson, late of Northumberland County, Pa., on a case of suspected poisoning, which shows how necessary it is to know what substances are present in the fluid submitted for examination, before forming an opinion. Four highly intelligent physicians appointed a committee by the coroner for the examination of the contents of the stomach, &c., of a person recently deceased, drew up a report to the effect—that he had died from the effects of arsenic, when none of that drug existed in the matters analyzed. This serious error arose from the presence of tartar emetic and common salt, combined with the colour of the fluids. The tests used were sulphuretted hydrogen, ammonia-sulphate of copper, ammonia-nitrate of silver, and the production of the arsenical alloy with copper. The action of all these reagents on the suspected mixtures, was examined by the side of their effects on a solution of arsenious acid, without detecting the error. But notwithstanding this, and a certain amount of moral evidence produced against the accused, it has been made clear by Dr. Jackson that none of the poison was present.

Of all the substances which may be met with in the matters examined, the salts of antimony give rise to the most serious difficulties. If sulphuretted hydrogen or Marsh's test be used, it is impossible to distinguish between arsenic and antimony, when both are present in certain proportions. It is therefore of the first importance, that this and other similar sources of error should be removed, so as to present to the jury a satisfactory report.

The metallic substances to be expected, whether in broths, medicines, or the contents of the stomach, &c., are the sulphates of copper and zinc, acetate of lead, nitrate of bismuth, corrosive sublimate, calomel, tartar emetic, and nitrate of silver. Of these the salts of silver and lead are precipitated by the addition of sufficient hydrochloric acid, and therefore do not interfere with the test. The sulphate, and other compounds of copper and zinc, do not exert any action in this case. But bismuth, mercury, and antimony, attack the copper strips as well as arsenic.

**Bismuth.**—Upon the addition of hydrochloric acid to the nitrate, a sub-nitrate is precipitated, but afterwards dissolve by the acid. From this solution is produced, almost immediately, a pinkish grey deposit of a crystalline texture, when clean copper is introduced. The reduced bismuth accumulates on the strips until it drops off. But the presence of this metal does not hinder the reduction of the arsenious acid, so that they are both thrown down together, the only inconvenience being that more copper is required, and care must be taken that the arsenic be not lost by the falling off of the deposit. If both agents be present, the character of the precipitate upon the copper cannot be considered as a test at all, for it will differ with the proportion of ether. But by carrying on the process to the second step, the separation becomes perfect, for the arsenious acid sublimes away, and the bismuth

remains at the lower end of the tube. In this way, 1.500th grain of arsenic mixed with 1.100th grain of nitrate of bismuth was clearly recognized after sublimation. This impurity is not, however, often to be expected in the fluids under consideration.

**Antimony.**—The entire separation of these substances from arsenic, by the method proposed, forms one of its chief advantages. If tartar emetic be present, it will not in any way affect the copper until hydrochloric acid is added. The first consequence of the introduction of the acid into the fluid, is the precipitation of the oxide of antimony, which it afterwards dissolves. From this solution the metal is rapidly deposited in the form of a gray crust, very much resembling that formed when arsenic alone is present in small quantity, but unlike the latter substance there is no darkening, or falling off of the antimonial crust. It is an exceedingly delicate test for antimony alone; but when arsenic is also present, the appearances depend upon the proportion of one or the other.

In subliming, arsenious acid is separated; this takes place at 380° Fah., long before the fusion of antimony at 800° Fah., which is nearly a red heat. In the case before us, more care than usual must be devoted to the heating of the tube, so that the melting point of antimony be not exceeded. This furnishes us with an additional argument in favour of carrying the process to the second stage, before an opinion can be formed upon sufficient grounds.

**Mercury** acts much more readily on copper than any of the preceding metals. If corrosive sublimate be present in the solution, it attacks the strips without assistance of any acid. The deposition of mercury takes place without heat, but boiling hastens the process. Under these circumstances, arsenic does not fall down, however great the quantity present. The mercurial deposit is at first grey, and afterwards, as the amount increases, presents all the physical characters of the metal, so that it cannot be mistaken for any other substance. But when the quantity in solution does not exceed one part in fifty thousand of the fluid, it will not fall until hydrochloric acid and heat are added—conditions under which arsenious acid also is reduced. So that mercury can be separated from a solution, except a small quantity, without disturbing the arsenic; but if the amount be very minute, both metals fall down, and the character of the stain is no longer a test. The presence of corrosive sublimate is however rarely to be expected, since it is the more active poison of the two; but the test under consideration may be used for the detection of mercury, as well as arsenic and antimony. Calomel may be looked for in many instances; and although it will not be found in fluids, yet in those cases where the coats of the stomach are macerated in dilute hydrochloric acid, for the solution of arsenious acid, it will also be dissolved and converted into corrosive sublimate. But this is not so great an inconvenience as might appear at first sight, for by sublimation the two substances are entirely separated from each other.

Introducing the copper strips coated with both metals into the subliming tube, and heating, the mercury will rise in the metallic form, and the arsenic as arsenious acid. The extremity of the tube surrounding the copper will not be stained green, as already stated, but be coloured with the orange oxide of mercury. A microscopical examination of the sublimate will quickly decide the question whether any arsenious acid be present; for its octahedral form and transparency contrast strongly with the spheres of opaque mercury. In these cases it is best to dissolve the acid away from the metal, the boiling the whole sublimate in pure water and testing again, before an opinion is given.

The results of the examination made on this subject, may be condensed under the following heads.

1st. In consequence of occasional failure of Marsh's test, as shown by Messrs. Danger and Flandin, and the length of time necessary to carry on the process, when the minute quantities of arsenic are present, it has become a desideratum to possess some more certain means of collecting the poison out of solutions. The process recommended by M. Riensch is the best yet discovered; but it is not a good test for the metal, because many other substances produce deposits which resemble that of arsenic to a great extent. But by subliming always from the precipitate collected, the test is increased in value and certainty.

2d. When solids or coagulable substances are submitted for examination, the addition of dilute hydrochloric acid is recommended as the most promising means of dissolving out the arsenious acid.



3d. Copper strips should be added until no stain is produced after thirty minutes' ebullition.

4th. Antimony and mercury are the only propable sources of embarrassment. The first is separated from the mixed precipitate by never raising the heat to 800° Fah. Large quantities of Mercury are first removed by the action of copper alone; and when it is mixed with arsenious acid in the sublimate, the solution of the acid by pure water separates it from the metallic globules.

5th. The simplicity of the manipulation and the certainty of the result, are exceedingly strong recommendations. But the facility with which a large number of examinations can be made with only a small quantity of matter, is the most valuable feature of the process. If all the operations are conducted in small tubes, an ounce of the suspected fluid will be sufficient to yield ten or more portions of sublimate.

6th. All the difficulty and loss of collecting common precipitates are removed by using the test, and it is liable to fewer sources of failure than those already known.

In view of these advantages Riensch's test is recommended to the profession as a valuable contribution to toxicology.—*New York Journ. of Med. Jan. 7.*

### MISCELLANEOUS.

#### PAYMENT OF MEDICAL WITNESSES.

This subject has been attracting attention in Great Britain as well as in this country. On two recent occasions (see *American Journ. of Med. Sci.*, Oct. 1846, p. 538, and Jan. 1847, p. 257) the rights of medical witnesses have been sustained by the courts, and we are pleased to learn, from the following extract from the *Cork Constitution* of August 4, 1846, that justice has at length also been meted to them in Ireland.—

"His lordship (Judge Jackson) said he had received a memorial from Dr. Barry of Kanturk, on the subject of remuneration to medical witnesses for their attendance at assizes. In reply, he would say, that on the Leinster circuit, Baron Pennefather ordered a physician residing in the country two guineas a day while in attendance at the assizes, and Mr. Serjeant Stock had made the same decision in Limerick. He therefore would direct that Dr. Barry should receive two guineas a day."

It is a new feature, says a correspondent of the *Lancet*, to have the public functionaries thus acknowledging that the services rendered by medical men to the crown should receive reasonable compensation; and I am happy to say that most, perhaps all, of the medical men who were summoned to the late Cork assizes, on behalf of the crown, were treated with some measures of politeness and justice. One gentleman, who for many years had been summoned before the judges of assizes, and oftentimes had been detained from home for from ten to fourteen days, and who hitherto had never received more than five pounds for his attendance, on the last occasion, much to his amazement, was respectfully presented with twenty guineas.—*The Med. News and Library.*

### CHEMISTRY.

#### POISONING BY PRUSSIC ACID.

Dr. Fleming of Glasgow, gives the following results of the chemical test in a case of poisoning by Prussic Acid:—

"Some hours after the inspection, four ounces of a thick pulpy fluid, which had a distinct odour of hydrocyanic acid, were taken from the cardiac extremity of the stomach, and in the clear fluid obtained from this by filtration, the test by the protosulphate of iron failed in producing the distinctive blue colour.

"Ninety hours after death the remaining contents of the stomach, amounting to about fourteen fluid ounces, and consisting of half-digested animal food, bread, and apparently malt liquor, having a faint odour of prussic acid, were put into a retort, with the addition of some sulphuric acid. The retort was placed on a sand bath, and distilled with a gentle heat for three hours, when two ounces of a clear fluid had collected in the receiver, having a distinct odour of prussic acid, masked, however, by the peculiar sour smell of half-digested food.

"1. On rendering a portion of the distilled liquid alkaline by potash, the addition of a solution of the protosulphate of iron produced a dirty green precipitate, which by a few drops of hydrochloric acid was changed to a deep Prussian blue colour.

"2. To the fluid rendered alkaline by potash, the addition of a solution of the sulphate of copper produced a greenish precipitate, which became white on adding a few drops of hydrochloric acid.

"3. On a solution of the nitrate of silver being added to the distilled liquid, a copious white precipitate took place. When this was dried and heated in a very narrow reduction tube, it emitted a gas which, when ignited at the end of the tube, burned with a rose-coloured flame.

"The complete success of these experiments thoroughly established the presence of prussic acid in the stomach."—*Monthly Journal of Medical Science.*

### THE

## British American Journal.

MONTREAL, APRIL 1, 1847.

### THE THIRD VOLUME.

*The British American Journal of Medical and Physical Science* has now been before the public and the profession of this province for two years; and the manner in which it has been supported fully warrants the belief, that it may now be considered as permanently established. Doubts of success are now lost in certainty; and the experiment of sustaining a journal by the profession, whose interests are advocated with honesty of purpose and independence, is triumphant. On the 1st May ensuing, the first number of the third volume will make its appearance, with such improvements in its typographical execution and arrangements, as will recommend it even more favourably than heretofore to the consideration of its friends and supporters.

Chiefly devoted to medical literature, its pages will continue to present a faithful record of the progress of the medical sciences. Nor will the physical sciences be overlooked. Although, from the nature of the work, the space allotted to the last must necessarily be limited, for the purpose of affording to a very large majority of the subscribers, that information which must be *most useful* to them, yet the desire is rather, to render the journal a local medium of communicating interesting facts and observations in the physical history of this province, than to convert it into a periodical of which the vast and rapid progress which the physical sciences in general are making, should constitute a constant theme, or a marked or prominent feature.

The medical profession of this province may be now deemed to be in a state of transition. Governed by antiquated laws, which make no provision whatever for the education of those aspiring to its future practice, measures with that object in view, as well as for other purposes, will soon engage general attention. The



present is indeed a critical period in the medical history of the province, pregnant with important results, which may be either beneficial or injurious, in accordance with their nature. On the eve of the introduction to the legislature of important measures, seriously affecting the future position and the prospects of the profession, these measures, ostensibly proposed for its amelioration, will receive, as before, a careful and *independent* examination. Devoted to the interests of the profession generally, the journal will faithfully maintain them in their integrity; and, if the profession be true to itself, the principles avowed in its pages will not be overlooked by the legislature, when deliberating on the measures which may be submitted to it.

To the contributors to the original department of the journal, medical as well as physical, the thanks of the editor are due. Fears certainly were entertained, that this department of the journal would not have been sustained in the manner in which it has been. Although the limited space allotted to it has been fully occupied, and to a greater extent than has occurred with any other journal of the same nature previously published in this colony, yet communications on physical subjects are still a desideratum; and we would earnestly call on our friends to record, in its pages, those matters of physical interest which must, when collectively considered, constitute a most important means of furthering our acquaintance with the physical development and resources of this important section of the British Empire. For the record, and dissemination of such facts, this journal presents the only truly legitimate medium of which this colony is, in the meanwhile, possessed; and must, in due process of time, become a work of reference on such topics.

The journal being now fully established, it will assume to itself an independent stand. It seeks for no favours. Its exchange list is large, but to it will be added, with pleasure, those local papers which may give insertion to this notice, and transmit a copy to the editor.

As intimated on previous occasions, all communications on scientific subjects must be transmitted to the editor, postage free; while on every other matter connected with the journal, letters and communications are to be addressed to the publisher, Mr. Becket.

In consequence of its extensive circulation among the medical profession of this province, the advertising sheet presents a desirable means of introducing to the general notice of the Profession, on the part of druggists and booksellers, matters which may be of interest.

The 1st and 2d volumes may be obtained, either bound or in numbers, by application to the publisher.

Montreal, March 15, 1847.

# SUMMARY PUNISHMENT OF ILLEGAL PRACTITIONERS OF MEDICINE.

We copy the following judiciously written editorial article, from the *Morning Courier*, Feb. 4; and concurring entirely in the statements which are contained in it, we submit it to the Profession of the Province without comment. We would only observe that the certificate of the Apothecaries' company, is the license which qualifies the general practitioner of England; and, as the criminal law of England is the one which holds in this colony, we certainly conceive that impostors and quacks here can be rendered amenable to its penalties as well as in Great Britain. We think the matter is deserving of consideration by the Profession at large. Numerous are the complaints which have reached us, relative to quacks and medical impostors, in the country districts. The remedy is of easy application, and we should be happy to enumerate a few instances of its successful application:—

The article which we quote below from a London daily paper, we most especially commend to the attention of our general readers, and most particularly to that of the Medical profession, and the Judicial authorities.

The general sanitary condition of the community is of pre-eminent importance, and numerous extracts and editorial articles given from time to time in the columns of the *Courier* demonstrate the interest which this question is at present exciting in England. On this subject we shall at a future period have more to say. We wish, if possible, to induce the Municipal authorities of this City to pay more attention to this question before the meeting of the Legislature, in order that they may apply for a Local Act, under whose provisions they may enforce such general sanitary regulations as are absolutely necessary to ensure the health of the population of Montreal.

If, however, the general health is a matter of interest to the community at large, and its preservation is a question more immediately concerning the public authorities, the subject to which the following article alludes is one that more properly belongs to individuals and the Medical profession.

We presume that there is no occasion for us to state a fact which is sufficiently well known, that is, that this Province is inundated with Medical practitioners who are utterly unqualified to prescribe for the bodily ailments of the lieges, in fact, quacks, under whose diabolical "simples" and other nostrums hundreds of the population are annually murdered. Against this infiction we believe there is no "specific" remedy. At least we remember some time ago having occasion to notice the arrival among us of a Yankee, who pretended to be an oculist, aurist, or some thing of that class, we mentioned the circumstance to a Medical friend, and advised him, if there was any law by which it might be done, immediately to institute a prosecution against him. We were then told that

there was no law which could be resorted to in order to put a stop to irregular practice. This we thought rather extraordinary, and wondered at the existence of a Board of Medical Examiners and the formality of a license to practise, so solemnly promulgated in the Official Gazette. It is true that we were always aware that the examination before this Board was to a certain degree a farce, for to our own certain knowledge men have passed their examination there and been admitted to practice who knew nothing of anatomy but what they had learned from books: they had never in their lives dissected a subject, yet a good memory enabled them, by dint of severe cramming, to undergo the ordeal. But still to enforce an examination on Canadian students, while there are no means of preventing foreigners, not only really educated men from the American Colleges, but the most abominable quacks, from practising when and where they please, certainly does seem to us a little bit of a farce.

Medical men, who come to this Colony, and have obtained their diplomas from regular institutions in England, Ireland and Scotland; medical men natives of Canada, who have gone home to study and there taken their degrees, and men who have studied and taken their degrees in Toronto, and Montreal, have obtained their skill and their standing in their profession at an immense expense and after years of hard study; is it either just or right, or expedient, that these men should not be protected from the intrusion even of educated foreigners? If so, is it not still more imperative that they be protected against quacks! We think this will be readily conceded.

We are aware that this is stating the case on the very low grounds of the mere pecuniary emolument to which every professional man is entitled; but the highest ground we can take up, is to point out to the people the evils under which they labour from the practice of these self-styled Physicians. A general paper like the *Courier* is not the proper medium in which to discuss medical cases; were it so we could detail instances in which the remedies of these quacks have entailed on their deluded patients the most intense sufferings, which have often resulted in permanent ruin of the constitution, loss of the faculties, and distortion of the limbs; and many cases in which their mal-practice has resulted in a very speedy loss of life, their ignorance and its result having been concealed from public view by the spade of the sexton.

Let the article which we quote below, be carefully considered by the medical profession, and by those legal authorities whose duty it is to watch over the lives and properties of the Queen's subjects; it will be seen that the common law of England, the criminal law, which we fortunately possess in Lower Canada, does, in the opinion of the Great Law Officers of the Crown, in England, afford to every man a remedy against illegal medical practitioners. It is true that this opinion has only been sought by one of the medical corporations, but that which applies to practising apothecaries, must also apply to practising surgeons and physicians. In Canada these distinctions do not

prevail. The medical men here are general practitioners, and the same rule must apply in their case.

We are sorry to state that among the medical men of Lower Canada, and particularly, of the city of Montreal, there appears to be very little of that *esprit du corps* which generally actuates bodies of similar character in other countries. But they appear to give way to petty jealousies and to be divided into little cliques which must ever prevent unanimity of action on questions of interest to the profession at large. It is not our province to decide who is in the right, or who is in the wrong, in these matters—were we to decide at all, we should probably say that their very great acrimony and vehemence would prove both parties to be in the wrong. We would gladly see these differences determined, because we are convinced that through them the public suffers,—

“Quid-quid delirant reges,  
Plectuntur Achivi.”

It is not for us to say whether the medical men themselves should attempt to determine this question, by instituting a prosecution in the Court of Queen's Bench, against the first irregular practitioner they can lay hold of, or whether it should be left to others. We have done our duty to them and the community by publishing an article which hitherto appears to have escaped the notice of our contemporaries. We believe this to be one of those questions of practical reform of an existing abuse, which is of much more importance than disquisitions on abstract questions of government:—

**PRACTISING AS AN APOTHECARY WITHOUT LEGAL QUALIFICATION, AN INDICTABLE OFFENCE.**—The society of Apothecaries have issued a circular, stating that, entertaining an opinion that a penal check upon the practice of medicine by unqualified persons is indispensably necessary for the protection of the public, and that the pecuniary penalty imposed by the Apothecaries' Act is but ill adapted for checking such practice, they have long desired a more summary mode of proceeding against illegal practitioners. A recent decision of the Court of Queen's Bench, in a criminal prosecution instituted against an attorney for practising without qualification, seemed to lead to the conclusion that notwithstanding the specific pecuniary penalty imposed upon unqualified persons practising as apothecaries, such persons might be indicted criminally as for a misdemeanor. This decision appeared to the society to suggest a mode of proceeding for checking the illegal practice of medicine, which might be attended with such important results, that they determined to lose no time in obtaining the highest legal opinions upon the subject; they, therefore, laid a case before the law officers of the Crown, and from the answers given to the questions submitted, it is the opinion of these learned gentlemen that an indictment will lie against a person who has practised as an apothecary without legal qualification.

The following is the opinion:—1. We think that an indictment will lie against a person who has practised as an apothecary without legal qualification, notwithstanding the particular penalty imposed by the 20th section of the Act, and the disability imposed by the 21st section. 2. The indictment may be preferred in any of the ordinary criminal courts having cognizance of misdemeanors committed in the county, or place, in which the party has so illegally practised, and it may be preferred at the instance of a private prosecutor. 3. We think it is competent for the Society of Apothecaries to prefer the indictment. 4. The punishment, as in case of other misdemeanors, would be fine or imprisonment, or both, at the discretion of the court. 5. We are not aware that any more summary proceeding than an indictment can be resorted to for the punishment of persons practising as apothecaries without legal qualification.—JOHN JERVIS, DAVID DUNDAS, FREDERIC ROBINSON. Temple, Nov. 22.

It is, perhaps, hardly necessary for the society to point out the

increased facilities which this mode of proceeding affords for putting the law in force against unqualified practitioners. Instead of proceeding for the recovery of penalties by a civil action, which in the case of a country practitioner could only be tried at the Spring and Summer Assizes, an indictment may be preferred at the Quarter Sessions and at the Assizes also; and instead of the power of proceeding against unqualified practitioners being restricted, as in the case of the specific penalty imposed by the statute, to the society of apothecaries, it will be competent for any person to prefer an indictment who may be disposed to do so. Another distinction between the two modes of proceeding, which is likely to operate still more powerfully as a check upon illegal practice, is this, that whereas an individual against whom a judgment for a penalty is obtained, under the present form of proceeding, can relieve himself from the consequences of his offence by obtaining his discharge under the bankrupt or insolvent acts, an individual found guilty on indictment of having practised as an apothecary without legal qualification, will be punishable by fine and imprisonment, and will have to undergo, whatever measure of punishment the Criminal Court may in its discretion award.

The authorities of the Apothecaries' Hall express a hope "that a public intimation, that the penalties of the law can now be enforced against illegal practitioners of medicine more summarily than heretofore, will deter all persons from practising as apothecaries who have not given such evidence of their competency to practise as the law demands. But if individuals who have not possessed themselves of a legal qualification will persist in practising in the absence of such qualification, they will do so at the risk of being criminally indicted for the offence at the instance of any individual prosecutor who may be induced to prefer an indictment against them." The Society further state their readiness to enforce the law to the extent of the means placed at their disposal; but those means are inadequate to the institution of frequent prosecution. It may, therefore, be anticipated, that indictments will be preferred at the instance of other parties; and the Society state "that they will endeavour to render such experience as they may have acquired in administering the act of 1815 available in furthering the ends of justice; and that they will be prepared, upon proper application, to furnish any information in connexion with the subject of illegal practice which they may have it in their power to afford."—*London Express*.

**Discovery of Fossil Bones.**—No little interest has been excited in this city, by the discovery, lately, of some fossil bones, vertebræ, in the blue clay deposit behind Cadieux village, in the immediate neighbourhood of this city, and about a mile N. W. from the northern end of the mountain. They were first observed by the workmen, when excavating for clay for the purpose of making brick, at the depth of fifteen feet from the surface, at the side of a steep bank, at the base of which a small rivulet takes its course. We have seen the spot, and the vertebræ. They are nineteen in number, gradually diminishing in size; the space between the ends of the transverse processes of the largest measuring twelve inches. When placed in continuity they measure about four feet six inches in length, about eight of them are caudal vertebræ; the transverse and spinous processes in these being in the first instance rudimentary, and finally becoming lost altogether. They are undoubtedly the fossil remains of a large cetaceous animal, and the discovery altogether is replete with interest. The excavation is still going on under the direction of Mr. Logan the Geologist, and although in the mean while, nothing further has been developed, yet we can scarcely doubt that ultimate suc-

cess will attend the efforts. The vertebræ are in an exceedingly fine state of preservation. The blue clay deposit, in which these remains have been discovered, belongs to the post-pliocene period, and abounds in marine shells. From the locality which we have specified, specimens of the *Tellina*, *Saxicava*, *Mytilus*, *Mya*, *Balanus*, *Psammobia*, and *Nucula*, have been taken. The blue clay deposit has been observed in this country as high as 500 feet above the level of the sea; the height of the stratum from which the vertebræ have been removed, may be safely estimated at about 100 feet above the same level. We shall keep our readers advised of the further progress made in this interesting matter.

### Kingston and Eastern Hospital of Upper Canada.

—We notice, in the *Kingston Chronicle*, an interesting account of a meeting, held in that city on the 15th March, of the Committee of the Hospital, at which the first annual report was read, adopted, and ordered to be published. From it we learn that the Hospital was opened in November, 1845, between which period and February 19th, 1847, 244 patients had been admitted. We have no account of the diseases, but the following table gives the results:—

Cured.....	156
Left Dissatisfied.....	39
Sent to Lunatic Asylum.....	1
Dismissed for Bad Conduct.....	10
Died.....	28
Remaining in Hospital.....	21

244

Three-fourths of whom were connected with the commercial marine of the lake.

From the successful effort thus made to establish an hospital, the Committee have come to the conclusion to found it on a firmer basis. It is accordingly proposed, to apply for an Act of Incorporation at the next meeting of the Legislature, and the constitution of the Montreal General Hospital is assumed as the model or type of that of Kingston, modified according to the circumstances, and the necessities of the locality. We have previously expressed our opinion, on the peculiar advantages which the city of Kingston presents for the establishment of an institution of the kind. Situated at the foot of the lake navigation, on the high road of immigration to the fertile districts of the sister province, the necessity for such an institution is so obvious, that we wonder it has never been before attempted. We sincerely hope that the work, now commenced with the spirit manifested at the meeting, will be successfully carried to completion, and that the philanthropy of its founders will meet with its due reward, in the gratitude of those who have been par-

takers of the benefits what it is calculated so well to afford. We shall be happy to record, from time to time, its progress, and its utility as exhibited in its work.

**Employment of Sulphuric Ether Vapour in Montreal, Quebec, and Sherbrooke.**—This agent has been employed in Quebec, this city, and Sherbrooke; but not with uniform success. In Quebec, Dr. James Douglass lately amputated the toes of a man, who had been previously narcotized by the inhalation of the vapour. More lately, in this city, Dr. Nelson removed a tumour from the thigh of a woman under similar circumstances of narcotism. The removal of a leg by Dr. Worthington, of Sherbrooke, was effected under a like state of insensibility from the same cause. In these three instances the successful use of the ether vapour was complete. At the Montreal General Hospital, circumstances lately demanded the amputation of the leg of a patient. Several protracted attempts were made, and at different intervals, under Dr. Campbell, to induce the narcotic effects of the ether, but without success; the leg was afterwards removed in the ordinary way. As the man had been of very intemperate habits, it becomes a question how far these habits may have influenced the susceptibility of the patient to the influence of the ether.

**Ohio College of Dental Surgery.**—A College for teaching Dental Surgery, has been in successful operation for the last six years, in Baltimore. Last year a second, with a similar object in view, was started at Cincinnati, Ohio, under the name of the Ohio College of Dental Surgery. The medical staff comprises three Professors: one of Dental Anatomy and Physiology, one of Practical Dentistry and Pharmacy, and one of Dental Pathology and Therapeutics; one Lecturer on Chemistry; and two Demonstrators, one of Anatomy, the other of Practical Dentistry. We do not doubt the ultimate success of the undertaking.

#### NOTICE TO CORRESPONDENTS.

*Dr. Marsden's (Nicolet) Case of Hydrops Ovarii; Dr. Worthington's (Sherbrooke) Case of Amputation of the Leg, under the Influence of Sulphuric Ether Vapour; and Dr. Crawford's (Montreal) Case of Ulceration of the Appendix Vermiformis, have been received, but at too late a period to receive insertion in this number of the Journal.*

*The two first communications did not reach us until after the original department of the Journal was in type, and the middle sheet in page form. The Journal has been, in accordance with instructions received, sent to Drs. Morson and Barry, (Bytown), Dr. Nicol, (Perth), and Dr. Purves, (Guananoque). These gentlemen can be supplied with the back numbers if intimation be given to that effect.*

#### BOOKS, &c., RECEIVED DURING THE MONTH.

Boston Medical and Surgical Journal, March 3, 7, 10, 17, 24.  
Medical News and Library, March.  
Southern Medical and Surgical Journal, March.  
The Medical Examiner, March.  
Buffalo Medical Journal, March.  
New York Medical and Surgical Reporter, February, 27, March 6, 13, 20.  
Illustrated Botany, Nos. 11 and 12.  
The American Journal of Science and Arts, March.  
The Southern Journal of Medicine and Pharmacy, March.  
Missouri Medical and Surgical Journal, February.  
Dublin Medical Press, February 3, 7, 10, 17, 24.  
Provincial Medical and Surgical Journal, February 17, 24.  
La Lancette Canadienne, March 1, 15.  
Mesmerism in India, and its Practical Application in Surgery and Medicine. By James Esdaile, M.D., Civil Assistant Surgeon, H.C.S. Bengal. London. 1846.  
The American Journal of Dental Science, March.

#### REPORT OF THE MONTREAL GENERAL HOSPITAL FOR JANUARY AND FEBRUARY, 1847.

DR. CRAWFORD AND DR. MACDONNELL, Attending Physicians.

Remained, . . . . .	92	Discharged cured, . . . . .	157
Admitted, . . . . .	173	Irregular, . . . . .	2
		Died, . . . . .	5
Total treated, . . . . .	265	Remaining, . . . . .	101
		Total, . . . . .	265
IN-DOOR PATIENTS.		OUT-DOOR PATIENTS.	
Belonging to Montreal, . . . . .	138	Belonging to Montreal, . . . . .	321
Immigrants, . . . . .	29	Immigrants, . . . . .	36
Seamen, . . . . .	6	Seamen, . . . . .	1
Total, . . . . .	173	Total, . . . . .	358
Males, . . . . .	99	Males, . . . . .	189
Females, . . . . .	74	Females, . . . . .	169
Total, . . . . .	173	Total, . . . . .	358

#### DISEASES AND ACCIDENTS.

Abcessus, . . . . .	4	Hypochondriasis, . . . . .	2
Aene, . . . . .	1	Lepra Vulgaris, . . . . .	2
Ambustio, . . . . .	1	Malingering, . . . . .	1
Amenorrhœa, . . . . .	1	Morbus Brightii, . . . . .	1
Anasarca, . . . . .	1	" Coxæ, . . . . .	1
Bronchitis, . . . . .	6	Menorrhagia, . . . . .	1
Bubo, . . . . .	1	Neuralgia, . . . . .	1
Bursitis, . . . . .	1	Necrosis, . . . . .	1
Caries, . . . . .	2	Ophthalmia, . . . . .	3
Cataract, . . . . .	1	Paraphymosis, . . . . .	1
Conjunctivitis, . . . . .	1	Paralysis, . . . . .	2
Constipatio, . . . . .	1	Paronychia, . . . . .	1
Contusio, . . . . .	5	Psoriasis Palmaris, . . . . .	2
Cynanche, . . . . .	1	" Guttatæ, . . . . .	1
Debilitas, . . . . .	1	Phthisis, . . . . .	3
Diarrhœa, . . . . .	6	Pleuro Pneumonia, . . . . .	1
Dyspepsia, . . . . .	3	Pneumonia, . . . . .	1
Eczema, . . . . .	1	Porrigo, . . . . .	3
Epilepsia, . . . . .	1	Rheumatism, . . . . .	6
Erythema Nodosum, . . . . .	1	Sinus, . . . . .	1
Febris Com. Cont., . . . . .	38	Scirrhus, . . . . .	1
" Intermit, . . . . .	1	Scrofula, . . . . .	1
" Typhus, . . . . .	9	Scarlatina, . . . . .	1
Fractura, . . . . .	7	Stricture, . . . . .	1
Furunculus, . . . . .	1	Subluxatio, . . . . .	1
Gastritis, . . . . .	2	Syphilis, . . . . .	10
Gelatio, . . . . .	6	Synovitis, . . . . .	1
Gonorrhœa, . . . . .	1	Tumor, . . . . .	2
Herpes, . . . . .	1	Tympanitis, . . . . .	1
Hemorrhoids, . . . . .	2	Ulcus, . . . . .	6
Hepatitis, . . . . .	2		
Hysteria, . . . . .	3	Total, . . . . .	173

ALEX. LONG, M.D., House-Surgeon.

# **BILL OF MORTALITY for the CITY of MONTREAL, for the month ending FEBRUARY 28, 1847.**

DISEASES		Male.	Female.	Total.	Under 1.	1 & under 3	3 — 5	5 — 10	10 — 15	15 — 25	25 — 35	35 — 45	45 — 55	55 — 75	75 upwards
EPIDEMIC OR INFECTIOUS,.....	Small Pox,.....	1	2	3	.	2	1	.	.	.	.	.	.	.	.
	Fever,.....	5	3	8	1	3	1	2	.	1	.	.	.	.	.
DISEASES OF BRAIN AND NERVOUS SYSTEM,.....	Convulsions,.....	3	1	4	3	.	1	.	.	.	.	.	.	.	.
	Dentition,.....	3	4	7	2	5	.	.	.	.	.	.	.	.	.
	Apoplexy,.....	1	.	1	.	.	.	.	.	.	1	.	.	.	.
	Water in Brain,.....	.	2	2	.	1	1	.	.	.	.	.	.	.	.
DISEASES OF RESPIRATORY ORGANS,...	Paralysis,.....	.	1	1	.	.	.	.	.	.	.	.	.	.	.
	Consumption,.....	17	16	33	5	2	1	.	1	6	6	5	3	4	.
	Asthma,.....	.	1	1	.	.	.	.	.	.	1	.	.	.	.
	Croup,.....	4	.	4	1	2	1	.	.	.	.	.	.	.	.
DISEASES OF ABDOMINAL VISCERA,	Pleurisy,.....	.	1	1	.	.	.	.	.	.	.	.	1	.	.
	Dropsy,.....	.	3	3	.	.	.	.	1	.	2	.	.	.	.
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED,.....	Inflammation,.....	5	7	12	6	4	.	1	.	.	.	.	.	1	.
	Accidental,.....	.	1	1	.	.	.	1	.	.	.	.	.	.	.
	Debility,.....	3	5	8	.	.	.	.	.	.	.	.	.	4	4
	Still-born,.....	3	1	4	4	.	.	.	.	.	.	.	.	.	1
	Unknown,.....	7	4	11	6	3	.	.	.	.	.	.	1	.	.
Total,.....		52	52	104	28	22	6	4	2	7	10	5	4	11	5

## **MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR FEBRUARY 1847.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	-18	+ 7	+ 5	- 5.5	29.97	30.03	30.13	30.04	NW by W	N Wby W	N Wby W	Fair	Fair	Fair
2,	+ 9	" 34	" 30	+21.5	30.14	30.04	29.94	30.04	W. N. W.	S.	S.	Fair	Fair	Fair
3,	" 35	" 39	" 37	" 37.	29.76	29.41	28.90	29.36	S.	S.	S.	Rain	Rain	Rain
4,	" 11	" 9	" 3	" 10.	29.23	29.57	29.78	29.53	W. S. W.	W. S. W.	W.	Snow	Snow	Stormy
5,	" 6	" 15	" 11	" 10.5	29.93	29.95	29.96	29.95	NW by W	W.	W.	Cloudy	Fair	Fair
6,	" 9	" 21	" 17	" 15.	30.00	29.96	29.99	29.98	W.	W.	W.	Fair	Fair	Fair
7,	" 16	" 21	" 16	" 18.5	29.94	29.77	29.58	29.76	W.	W.	W.	Cloudy	Fair	Fair
8,	" 16	" 23	" 23	" 22.5	29.57	29.56	29.56	29.56	N. N. W.	N. N. W.	N. N. W.	Fair	Fair	Fair
9,	" 20	" 31	" 26	" 25.5	29.40	29.61	29.85	29.62	N. W.	N. W.	N. W.	Snow	Snow	Fair
10,	" 22	" 37	" 28	" 29.5	29.89	29.99	29.85	29.91	W. by N.	W.	W.	Fair	Fair	Fair
11,	" 23	" 28	" 12	" 25.5	29.84	29.88	29.94	29.89	W. N. W.	W. N. W.	W. N. W.	Fair	Fair	Fair
12,	" 11	" 20	" 14	" 15.5	29.90	29.92	29.88	29.90	W. by N.	W. by N.	W. by N.	Fair	Fair	Fair
13,	" 9	" 16	" 10	" 12.5	30.00	29.93	29.92	29.95	W.	W.	W.	Fair	Fair	Fair
14,	" 1	" 14	" 8	" 7.5	30.07	30.04	29.83	29.98	NW by W	N. W.	N. W.	Fair	Fair	Snow
15,	" 6	" 22	- 5	" 14.	29.97	30.13	30.51	30.20	N. W.	N. W.	N. W.	Fair	Fair	Fair
16,	-18	- 3	+ 4	-10.5	30.63	30.38	29.99	30.33	N. E.	N. E.	N. E.	Fair	Fair	Snow
17,	+10	+23	+16	+16.5	29.90	30.01	30.12	30.01	S W by W	S W by W	S. Wby W	Fair	Fair	Snow
18,	" 8	" 19	" 7	" 13.5	30.34	30.33	30.32	30.33	W.	W.	W.	Fair	Fair	Fair
19,	" 4	" 18	" 10	" 11.	30.33	30.32	30.33	30.34	N. by W.	N. E.	N. E.	Snow	Snow	Fair
20,	- 2	" 12	- 3	" 5.	30.52	30.51	30.47	30.50	W.	W.	W.	Fair	Fair	Fair
21,	" 9	" 8	+ 8	- 0.5	30.33	30.12	30.02	30.16	N. N. W.	N. E.	N. E.	Fair	Fair	Cloudy
22,	+ 7	" 15	" 5	+11.	29.97	29.88	29.95	29.94	N. E.	N. E.	N. E.	Snow	Fair	Fair
23,	- 2	" 18	" 8	" 8.	30.22	30.24	30.36	29.97	N. by E.	N. W.	W.	Fair	Fair	Fair
24,	" 4	" 19	" 3	" 7.	30.47	30.38	30.34	30.40	W.	W.	W.	Fair	Fair	Fair
25,	" 10	" 18	" 5	" 4.	30.32	30.28	30.28	30.29	N. W.	N.W.by N.	N. N. W.	Fair	Fair	Fair
26,	" 8	" 22	" 12	" 7.	30.42	30.33	30.32	30.36	NW by W	N Wby W	N Wby W	Fair	Fair	Fair
27,	+10	" 20	" 22	" 15.	30.14	29.82	29.39	29.78	N. E.	N. E.	E.	Fair	Snow	Snow
28,	" 19	" 30	" 22	" 24.5	29.18	29.13	29.14	29.15	N. N. E.	S. W.	W S. W.	Snow	Fair	Fair

THERM. } Max. Temp., +39° on the 3d.  
 } Min. " -18° " 1st and 16th.  
 Mean of the Month, +13° 25.

BAROMETER, } Maximum, 30.63 Inches on the 16th.  
 } Minimum, 29.08 " " 3d.  
 Mean of Month, 29.95 Inches.



**MONTHLY METEOROLOGICAL REGISTER AT H.M. MAGNETICAL OBSERVATORY, TORONTO, C. W.—FEBRUARY, 1847.**  
*Latitude 43°. 39' 4". N. Longitude 79°. 21' 5". W. Elevation above Lake Ontario, 108 Feet.*

DAY.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.				Snow in on surf.	WEATHER.
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.		
1.	29.406	29.539	29.642	29.535	24.0°	32.7°	30.7°	29.7	1.22	1.61	1.48	1.49	.93	.87	.86	.90	Calm.	S. by W.	Calm.	not app.	not app.	Densely overcast all day.
2.	29.521	29.435	29.369	29.398	28.6	41.1	38.2	37.6	1.49	1.88	1.99	1.86	.95	.73	.87	.83	Calm.	E. S. E.	Calm.	—	—	Part. cl'd. Com. Ring slightly at 10 pm.
3.	29.057	28.721	28.970	28.950	38.0	32.2	16.4	25.7	.221	1.59	.080	.135	.97	.88	.83	.87	Calm.	N.W. 3.0	N.W. 6.0	—	—	Ring snow to 2 pm. Snowing fr 2 to 8 pm.
4.	29.362	29.591	29.721	29.721	10.8	23.3	15.2	15.6	.060	.079	.073	.070	.79	.62	.80	.75	NW by W*	N.W. 2.5	N.W.	—	—	Sft snow to 4 am. Cl'd to 9 am. Cl'd from 10 am.
5.	29.742	29.705	29.688	29.710	7.8	20.9	18.9	16.1	.066	.094	.078	.079	.98	.81	.72	.82	Calm.	Calm.	N. by W.	—	—	Clear to 2 pm. Part. clouded from 2 pm
6.	29.762	29.729	29.709	29.698	11.0	27.8	20.0	21.8	.069	.097	.089	.097	.91	.63	.80	.79	Calm.	N. by W.	Calm.	—	—	Clear and uncloud all day. Very fine day
7.	29.402	29.141	—	—	27.3	29.3	—	—	.133	.151	—	—	.88	.94	—	—	E. S. E.	E. by S.	—	—	—	Dun. overcast. Com. snow. 1h 30m pm
8.	29.273	29.175	—	—	29.015	29.133	28.3	35.9	32.1	32.0	1.64	1.52	.88	.71	.91	.85	S. W.	S. W.	E. by N.	2.5	2.5	Gen. clouded. Snowing sftly fr 4 to 8 pm
9.	29.223	29.364	29.443	29.378	27.0	31.5	29.4	28.6	1.24	1.23	1.34	1.24	.83	.70	.82	.78	NW by W	S. W.	Calm.	1.0	1.0	Lightly overcast. Detach. clouds. Mild
10.	29.465	29.514	29.613	29.552	26.6	32.9	19.4	24.3	1.32	1.66	.097	1.21	.90	.89	.89	.89	Calm.	W. by S.	Calm.	not app.	not app.	Gen. cl'd. Particles of snow occs.
11.	29.637	29.637	29.575	29.599	16.0	20.8	16.5	17.3	.084	.088	.086	.087	.90	.76	.89	.88	Calm.	N. by S.	Calm.	0.1	0.1	Densely overcast all day. Very dull.
12.	29.471	29.591	29.740	29.883	13.8	23.4	14.8	17.2	.082	.099	.074	.082	.94	.76	.83	.82	Calm.	N. by W.	Calm.	1.5	1.5	Snowing to 3 pm. Gen. clouded.
13.	29.738	29.595	29.632	29.599	14.6	23.2	22.3	23.7	.077	.095	.092	1.06	.86	.69	.75	.80	Calm.	W by S	W.S.W.	0.2	0.2	Dens. clouded all day. Sft snow occs.
14.	29.658	29.547	—	—	22.0	29.9	—	—	.102	.143	—	—	.84	.86	—	—	W. S. W.	S.W. by S	—	—	—	Overcast. Light clouds and haze.
15.	29.563	29.874	29.986	29.861	28.6	22.2	17.3	21.4	1.35	.079	.068	.083	.85	.65	.68	.74	N. by W.	N.	N. N. E.	1.0	1.0	Sft to 3 am. Cl'd to 2 pm. Remainder
16.	29.903	29.570	29.482	29.629	10.8	24.0	19.4	18.5	.075	1.23	1.01	.099	1.00	.93	.92	.93	N. E.	E.N.E. 2.0	N. N. W.	not app.	not app.	partially clouded.
17.	29.694	29.756	29.847	29.812	20.1	33.0	19.3	23.8	1.04	1.33	.090	1.10	.93	.77	.82	.83	N. N. W.	W.	N. by E.	1.5	1.5	Cl'd all day. Snowing fr 9 am to 1 pm. Hail
18.	29.893	29.820	29.774	29.817	21.4	33.0	27.4	28.7	.095	.165	.129	.135	.79	.88	.85	.84	Calm.	S. E. by S.	E. N. E.	—	—	Cl'd to 4 pm. Clear from 6 pm to midnt
19.	29.780	29.885	29.969	29.909	27.2	32.6	29.9	29.4	1.20	.160	.151	1.44	.80	.87	.91	.88	Calm.	Calm.	Calm.	—	—	Clear to 3 am. Rem. over. Part. cl'd & haze
20.	30.005	29.979	29.990	29.862	25.8	22.2	20.8	20.8	1.23	.104	.089	.099	.86	.81	.77	.85	E.	E. by N.	E. N. E.	not app.	not app.	Slight snow to 4 am. Den. over. all day
21.	29.633	29.443	—	—	16.4	20.8	—	—	.091	.106	—	—	.93	.91	—	—	N. E.	E.N.E.	—	2.3	2.3	Dens. overcast. Snowing fr 2 pm.
22.	29.452	29.505	29.732	29.609	14.5	19.9	10.0	13.8	.079	.092	.058	.074	.89	.82	.78	.83	Calm.	N.	Calm.	5.0	5.0	Cl'd to 6 pm. Snowing occs. Aur. light
23.	29.945	30.017	30.058	30.035	0.6	16.8	5.3	6.6	.037	.061	.046	.048	.76	.62	.77	.74	N by W.	Calm.	Calm.	2.0	2.0	Unclouded. Hazy round hor. Fine.
24.	30.093	29.978	29.864	29.939	0.3	22.3	20.3	17.4	.042	.100	.093	.084	.91	.82	.82	.81	Calm.	E. by S.	N. N. W.	—	—	Clear to 9 am. Rem. light cl'd & haze.
25.	29.834	29.863	29.953	29.909	16.8	26.1	11.1	16.9	.066	.098	.070	.075	.67	.68	.91	.75	N. E.	E. S. E.	Calm.	0.2	0.2	Slight snow to 6 am. Clear from 1 pm
26.	29.991	29.864	29.676	29.765	8.6	25.6	28.2	24.7	.059	.111	.124	.113	.85	.78	.79	.81	N. N. E.	E. N. E.	F., 3.0	—	—	Passing clouds to noon. Remains dense
27.	29.301	28.838	28.828	29.038	26.6	31.0	32.0	27.7	1.40	.164	.156	1.41	.96	.95	.87	.91	E. 4.53	E. 3.0.	SW, 3.5	6.0	6.0	cl'd & haze.
28.	28.846	28.898	—	—	28.3	26.3	—	—	1.40	.127	—	—	.89	.87	—	—	S.W. by W	W. N. W.	—	4.0	4.0	Sft & drif. heavily to 4 pm. Den over. all day.
Mean	29.630	29.606	29.636	29.6306	18.6	27.3	21.4	22.48	1.00	.121	.104	.108	.88	.78	.83	.83	—	—	—	27.3	27.3	—

\* Rain, in inches, on 3d, 0.480; on 4th, 0.070; total, 0.550.—† Rain not appreciable on 17th and 20th.

Year.	Temperature for February.				Wind.				Days.			
	Mean.	Max.	Min.	Range.	No. Days.	Inches.	Force.	Mean.	No. Days.	Inches.	Force.	Mean.
1840.	29.0	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1841.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1842.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1843.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1844.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1845.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1846.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61
1847.	29.2	44.1	1.3	42.8	8	1.475	90	0.61	9	1.475	90	0.61

Under the head of Tension of Vapour, is given the elastic force of the Aqueous Vapour in the Atmosphere at each Observation, in decimals of an inch of Mercury, or the proportion of the Barometric pressure due to its presence.  
 The quantity of Rain received for the last 24 hours, is noted at 9 a.m.  
 The quantity of Rain received for the last 24 hours, is noted at 9 a.m.  
 The Observations entered at 7 a.m., on Sundays, are actually taken at 9 a.m. The two Observations taken on Sundays are not included in any of the means.













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